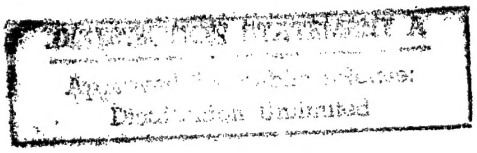
JPRS-UMA-84-043

8 June 1984

USSR Report

MILITARY AFFAIRS



FBIS FOREIGN BROADCAST INFORMATION SERVICE

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service (NTIS), Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semimonthly by the NTIS, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

JPRS-UMA-84-043

8 June 1984

USSR REPORT
MILITARY AFFAIRS

CONTENTS

MILITARY POLITICAL ISSUES

PARTY ORGANIZATION FAILS TO DISCIPLINE

Moscow KRASNAYA ZVEZDA in Russian 1 Apr 84 p 1

[Article by KRASNAYA ZVEZDA correspondent Major N. Medvedev, Red Banner Urals Military District: "...And With Honors to Boot, Party Life: Following Up a Letter"]

[Text] Tamara Fedorovna Larskaya was one of the most visible people in the garrison — she had been in charge of the local exchange service organization for the past eight years. Her organization had taken many prizes in competition. T. Larskaya accordingly wielded considerable influence within the Urals Military District exchange system — she was an experienced employee who was able to maintain mutually advantageous business contacts with local organizations and facilities. The exchange organization had successfully fulfilled its plan one year after another. This was the most important thing. And when the district exchange administration received complaints from people within this organization the people there would apparently figure, well, a good superior is always going to have people in her organization who are jealous of her. Here came a complaint, for example, from T. Shubina, the senior exchange service accountant, that Larskaya refused to allow her to conduct an unannounced inspection. But this particular complaint got pigeonholed. Just as did many others.

The exchange service administration was incredulous, too, when it received a letter from retired Major B. Vikharev, which had been sent to KRASNAYA ZVEZDA's correspondence center. The author provided detailed accounts of instances in which Larskaya had abused her official position along with supporting evidence in the form of copies of a number of documents.

Colonel N. Kvartsov, deputy district exchange service chief for political affairs, the individual to which I then turned myself, was not a little taken aback.

"This is really strange. In our party meetings Vikharev lavished nothing but the highest praise on Larskaya. I wonder what's to account for this about-face. We'll have to check into this and do what has to be done," the political officer assured me.

The response to the letter to the newspaper was immediate. By the time I made it to the garrison where the exchange involved is located, Larskaya had already been relieved of her duties. This decision was probably speeded up by the results of the latest people's inspection audit. The inspection team, headed by Lieutenant

Colonel Ye. Skorokhodov, discovered serious departures from procedures established for exchange service distribution of fund merchandise. Products intended for sale in exchange facilities were frequently being sold on the side. On instructions from T. Larskaya personally, for example, 400 kilograms of meat were sold to employees of the city's Rostorgodezhda [Republic Clothing Wholesaling Office of the RSFSR Ministry of Trade] organization.

Together with officer Ye. Skorokhodov, deputy chief of the political department, we reviewed the facts set forth in B. Vikharev's letter. Larskaya was in fact attempting to get rid of employees who were "interfering" with her operations. Retired Major G. Zaynullin, chairman of the exchange service's people's control group, had incurred Tamara Fedorovna's displeasure. This came about in the wake of an inquiry by inspectors into procedures employed in writing off natural spoilage at a produce storage facility. Senior warehouseman O. Suboch had had to send rotten tomatoes to the dump that day. But what was the "surprise" of the warehouse manager when the people's inspectors found heavy cinder blocks in barrels of red liquid. The clever manager was going to be able to "save" half a quintal of fresh tomatoes this way.

The required official report was prepared. There was no doubt on anyone's part that the swindler would be held strictly accountable. But it was not to be. Larskaya stood solidly behind her subordinate. The way she looked at it, Zaynullin was trying to discredit the good name of both a few individual employees and the organization as a whole. Larskaya's unfounded claims and outspoken carping and fault-finding ultimately had their effect on the chairman of the people's control group: Zaynullin was released "at his own request."

With an industry worthy of better application, the exchange service chief also defended L. Neygebauer, a senior merchandising specialist convicted of selling his motor vehicle at a speculative price and of other improper activities. Tamara Fedorovna summoned members of the party bureau to her office one by one in an attempt to persuade them to show a little more loyalty in their consideration of the Neygebauer matter. Her arguments, or more precisely, her pressure, ultimately had the desired effect on some members. At a meeting of the bureau, and then at a party meeting, the accused was given a strict reprimand with an entry to be made in her personnel record book. The party committee, however, did not agree with this decision. For discrediting the title of "communist," Neygebauer expelled from the ranks of the CPSU. She also, of course, had to give up her position with the exchange service. Larskaya, it is true, was able to be of assistance on this occasion as well: her colleague who had been convicted and penalized was now shown to have been removed from her position "at her own request."

It should be pointed out here that the exchange service chief had her own, highly unique approach to the selection of personnel. S. Nikshina, for example, was named director of a new exchange service facility after she had only a short time before had to give up her position as director of the rayon dining facility trust. The bureau of the party's rayon committee gave her a strict reprimand and ordered an entry in her record book. Nikshina had been guilty of looking too understandingly upon wrong-doing on the part of her employees. And then when some of them turned up in the defendant's chair, the trust director in turn had to give up her "director's chair" in the public dining system. At this point, Larskaya offered her a job in the military exchange system.

L. Kuksa, who was dismissed from her position as director of a store in town for a variety of offenses, also benefited from the exchange service chief's kindly disposition. She, too, was "placed." So what was happening was that Tamara Fedorovna was gradually surrounding herself with loyal people and essentially turning the exchange service into her own patrimonial estate. She was not in the slightest inhibited by the fact that her changes in personnel, her diversion of merchandise in short supply from intended recipients and other offenses could be observed by many of her subordinates and that complaints and reports could follow. She was convinced that loyal people would always be a reliable base of support and that all you had to say to anyone who proved overly obstinate was: "If you don't like it, you can leave it." She apparently placed great faith in the unprincipledness of the district exchange administration as well. And the basis for this faith was the fact that complaints about Tamara Fedorovna elicited no response from the administration.

Larskaya's misconduct caused legitimate indignation among most of her employees. But what was the party organization's response? At this point let us return to the letter we received from Boris Petrovich Vikharev. Now he was none other than the secretary of the exchange service party organization, but he pretended not to know or hear anything. He would report regularly to the political department that things within the organization were going normally. And he did in fact sing Larskaya's praises at meetings. At the same time, however... at the same time he was keeping his own record of the exchange service chief's abuses and misconduct, collecting copies of documents, letting the evidence pile up, as they say. He avoided speaking out openly: he was afraid of Tamara Fedorvna's sharp temper and had not the slightest inclination to risk finding Boris Petrovich among the ranks of those who had failed to please. Only after he had left the exchange service did he find the courage to write his letter. I must say, however, that even then he was unable entirely to overcome this faintheartedness. When I asked if he would come to the exchange for a conversation, he declined. He suggested that we meet at his home. A short time later I received word of another condition: "Boris Petrovich requests that you come alone."

So we got together for this "conspiratorial" meeting. Vikharev repeated the account contained in his letter. He then told me about his current position with the meat combine. As it turns out, he has observed a number of shortcomings at his new place of employment as well. It cannot be excluded that in good time he will bring these to public attention as well. Only if he doesn't feel threatened by anything, of course. To do public battle with shortcomings is not part of his operating procedure, so to speak. To criticize from a comfortable distance — that's the Vikharev method.

The collective is now discussing its problems openly and candidly. Communists are taking a self-critical look at their past refusal to get involved and coming to realize that this situation is the result of this attitude on their part.

"From now on, everything is going to depend on us alone, particularly on our devotion to principle," T. Shubina, the secretary of the party organization, declares.

I would like to point out here that the atmosphere within this collective and its operational performance indicators are also going to depend to a great extent upon

the district exchange administration and the political department. The attitude they demonstrated in the case of the story we have just been following was, to put it mildly, unusual. And now another remarkable detail has come to light: there was still no one who was prepared to remove Larskaya from her position — she was removed at her own request. And, on instructions from the exchange administration, with honors and words of commendation and gratitude to boot. As it was explained to me by the administration:

"What's wrong with that?! Tamara Fedorovna worked for the exchange service for many years and performed no small number of valuable services."

Yes, it's true that you're occasionally going to hear this unusual justification of serious offenses, abuses of official position and a variety of other missteps. The fact is, however, that long periods of service and previous services rendered do not relieve an individual of personal responsibility for misconduct and any acts incompatible with our standards of morality. We can't completely forget the good things a person has done in the past, of course, but I think the most important standard to measure a worker against is the kind of work he's doing now, the level of professional, political and moral influence he carries. This is particularly important when it comes to evaluating people in leadership and managerial positions. The party is today imposing especially great demands, in both a personal and a professional sense, upon all those in leadership positions, who are responsible for organizing the work of others. And this line is to be implemented unfailingly.

Unfortunately, however, it must be said that it looks as though the senior personnel of the district exchange service administration and its political department have failed to grasp the essential nature of these demands. They have simply failed to analyze the situation we have just been looking at in any fundamental way.

8963
CSO: 1801/294

ARMED FORCES

HIGHLIGHT FROM 'SOUTH-84' TRAINING EXERCISE

Moscow KRASNAYA ZVEZDA in Russian 1 Apr 84 p 1

> [Text] Participating in the "South-84" joint training exercise, which, in accordance with plans of the Combined Armed Forces of the Warsaw Treaty, were conducted in the German Democratic Republic, were, as the press has previously reported, staff organizations, units and subunits of the National People's Army of the GDR, the Polish Forces and the Group of Soviet Forces in Germany. Exercise participants worked on problems associated with cooperation between combined-arms forces and weapons on the modern-day battlefield.

Troops of the three fraternal armies performed their exercise missions at high levels of intensity and with an evident sense of personal responsibility for success: they executed forced marches, attacked the "enemy" boldly and resolutely and tenaciously defended the positions they had occupied. Silence was not to fall in the training area during either the day or the night.

Deployed there in the assault line were subunits under the command of Captain V. Ignatenko and Senior Lieutenants N. Aleshin and A. Polyakov. Explosions throw earth high into the air, and the area is filled with the roar of powerful engines and the clanking of vehicle tracks. The attackers move rapidly to occupy an advantageous line and then bring their second echelon into action. Employing all their available firepower, the defenders counterattack and attempt to prevent this. Motorized rifle troops, tanks and artillery are all involved in the fire fight. Favorable comment was to be heard particularly frequently on the performance of the artillery during this phase of the exercise. Distinguishing themselves here were troops in the organizations under the command of Major A. Dovgal', Lieutenant Z. Muravetskiy and Junior Lieutenant A. Miler. Soviet and Polish artillerymen cooperated so efficiently that one would have thought they had been fighting shoulder to shoulder with one another for months.

The Polish Forces battalion commanded by Captain S. Danets gave a good account of itself in a difficult situation. This particular subunit had long been highly regarded for its high field training standards, good organization and discipline. And these it demonstrated in full measure during "South-84."

These exercises could not fail to leave the observer impressed with the enormous spatial scope of modern-day combat operations, with the sudden changes in situation and the continuous maneuvering of subunits and fire characteristic of these operations. A tank battalion of the GDR's National People's Army under the command of Captain G. Yunkert, for example, suddenly found itself up against superior forces and so in a difficult situation. But a Soviet Army motorized rifle battalion under the command of Lieutenant Colonel Zh. Deremedved' was then lifted in in support. The situation had then become critical for the opposing side.

The aviators, fighter-bomber and helicopter pilots, of the GDR's National People's Army and the Group of Soviet Forces in Germany have executed all their missions in an efficient, well-coordinated manner as well. Fire-support helicopter crews of a GDR National People's Army subunit under the command of Major G. Belke, a graduate of the Military Air Academy imeni Yu. A. Gagarin, destroyed their targets without a miss. Combat pilots Major A. Sharchev and Captains A. Kon'kov, V. Tolochko and S. Lobkov earned "outstanding" ratings.

Exercise participants demonstrated tactical maturity and an ability to employ first-rate equipment and powerful weapons both in the attack and on the defense, in tactical airborne assault landings and in crossing water obstacles. Troops of the fraternal armies found themselves enriched by a great new fund of practical experience in joint tactical drill exercises, competition to meet norm requirements and in operations conducted by mixed crews.

Staff and service specialists and political personnel engaged in an enthusiastic exchange of experience. A variety of types of party political activity were employed in the course of the exercise. Troops will cherish the memory of performances by the combined song and dance ensemble composed of members of the ground forces of the GDR's National People's Army and the Group of Soviet Forces in Germany and the GDR National People's Army's E. Weinert Ensemble.

"For members of the armies cooperating in these exercises the difficult course in the training area became a path to brotherhood," Lieutenant General V. Rothe, deputy commander and chief of the political administration of the ground forces of the GDR's National People's Army, declared in a conversation with reporters. "The combat training exercises here have demonstrated not only the high level of military skills of the participants, but the unshakable class unity of these comrades-in-arms and their readiness to stand in defense of the achievements of socialism steadfastly and courageously."

8963
CSO: 1801/294

ARMED FORCES

EDITORIAL CRITIQUES STAFF OFFICERS

Moscow KRASNAYA ZVEZDA in Russian 1 Apr 84 p 1

[Editorial: "The Staff Officer"]

[Text] It was the 1099-th day of the Great Patriotic War. The day marking the beginning of the end for Hitler's forces at Bobruysk. This battle left no few pages in the glorious military annals of the Soviet Army. Among them is the page pointing to the fact that it was on this very day, June 24, 1944, that our artillery for the first time employed the parallel barrage. In those sectors where it was employed, our forces were able to advance 10-20 kilometers farther into the depth of the enemy defenses over the course of the seven-day offensive than had been called for by the overall plan of operation. As is pointed out in "Istoriya voyennogo iskusstva" [History of the Military Art], artillery support for an attack by infantry and tanks in the form of a parallel barrage was an innovation in artillery operations. Playing a leading role in the development of this method of destroying an enemy force with fire power, the most effective method then known and a method endorsed by Marshal of the Soviet Union K. Rokossovskiy, commander of the 1st Belorussian Front, were officers of the frontal artillery staff headed by Major General of Artillery G. Nadysev.

The history of our renowned Armed Forces knows no small number of similar examples of situations in which a staff officer has demonstrated a creative, innovative approach to the solution of a challenging problem with which he has been confronted. And in looking at these examples, how can we fail to review once again the record of examples of the courage our staff officers have demonstrated, the evidence of their boundless devotion to the motherland and the party. For it is precisely this kind of officer, a true patriot in the cause, devoting to it all the enthusiasm in his soul, all his energies, an officer possessed of a deep sense of duty, that constitutes the strength of our staffs today.

The Soviet Armed Forces are in a continuous state of development. Thanks to the unceasing concern demonstrated by the party and the government, by the entire people, for increasing the defensive strength of the motherland in the face of the growing military danger posed by imperialism, our Armed Forces dispose of all resources required to put the check on these militant adventurists. The period since the war has seen our armed forces undergo fundamental changes in its weapons and equipment, organizational structure and control and support systems. Automated control systems and computers have come to the aid of our commanders and staff organizations. The last word, however, remains, just as it always has, with the

individual human being. So to a greater degree than ever before, today's officer, and the staff officer in particular, must have a nose for the new and be able to exploit advances in science and technology with the maximum effectiveness.

The party is orienting all our cadres toward this type of approach to their mission. This, its unchanging line, was confirmed once again by decisions of the February (1984) plenum of the CPSU Central Committee and in speeches delivered by Comrade K. U. Chernenko, general secretary of the party central committee, at this plenum and on the occasion of his meeting with voters in Moscow's Kuybyshev electoral district. The party's call for demonstrations of greater independence at all levels, for bold innovation, for people to take risks if this is what is required to bring about a needed improvement, is directed toward our military cadres as well, which includes, of course, our staff officers.

People for whom the interests of a cause and concern for insuring combat readiness are always the primary concerns, always the pioneers, the innovators.... This is the view we have of most of our unit and shipboard staff officers today. Worthily carrying on the glorious traditions of the front-line fighters of yesterday, they stand as models of military bearing and appearance, discipline, honorable, selfless service, thorough professional training and competence and of a responsible attitude toward obligations. Such exemplars we find, for example, in Colonel Engineer V. Kamosko and Lieutenant Colonel N. Zinkin, both holders of the Order of the Red Star, both officers on the staff of the Group of Soviet Forces in Germany, Captain 2d Rank Yu. Soldatenkov, submarine force flag communication officer, Major A. Guzeyev, communications battalion chief of staff, and great many others among our staff personnel. These officers serve in a variety of staff organizations. They do not function at the same level of responsibility. But distinguishing them all is the following striking characteristic: a burning desire always to be at the center of events and at the critical points on the frontline in the struggle to increase the combat readiness of our armed forces, to improve the quality and effectiveness with which military duties are discharged and to tighten discipline, organization and order within our units and aboard our ships.

As instruments of control in the hands of our commanders, our staff organizations and their activities can truly serve a multitude of purposes. Upon instructions from commanders they develop plans for combat and political training and oversee their implementation, organize and monitor the preparation and training of our guard and unit administrative personnel and then the quality with which these personnel discharge their responsibilities and maintain records on our personnel, weapons inventories, combat and other equipment and ammunition. They play an active role in the organization of socialist competition. In a word, there is no part of the entire military organism in which the influence of the staff organization is not felt or where the knowledge and efforts of its officers would not be needed.

The chief of staff plays an exceptionally important role. How critical it is that he be not simply an executor of the will of the commander, but his closest assistant, an officer prepared in case it becomes necessary, as it frequently did at the front, to take over control of the organization himself. The increasing number of tasks our staff organizations are called upon to perform require a creative, analytical approach to the management and control of manpower and materiel, well-organized staff operational procedures, accuracy and a scientific approach to

record-keeping and accounting, quick and agile thinking, expedition, efficiency and discipline. All this will be possible only if each individual staff officer, and particularly the chief of staff, has a sufficiently sensitive feel for the new and innovative and is capable of working with creative initiative in even the most difficult of situations. In the search for means of improving troop control and enhancing its reliability and efficiency, in the search for ways to improve discipline and organization within our armed forces and for the most effective means of employing weapons and equipment — these are the most important fields of activity for staff organizations at all levels, this is where each individual staff officer, particularly his chief of staff, should demonstrate the full extent of his capabilities and knowledge.

The effectiveness of staff operations both in connection with the everyday routine and in a rapidly developing battlefield situation is going to depend to a great extent upon the commander's relationship with it; he is responsible for insuring that his staff maintains its cohesiveness and efficiency and for enlarging its organizational function. We cannot fail in this connection to take account of the fact that our staff officers become our unit and subunit commanders. Each one of them is of course going to need advice, assistance and support from his older, more experienced colleagues. This is particularly important at the very beginning, when an officer is just starting to develop his grasp of the basics of staff work and to acquire his operational staff skills and instincts.

It not infrequently happens, unfortunately, that a new staff officer will be left to stew in his own juice, so to speak. His exercise performance will by no means always be thoroughly analyzed and critiqued. The command-staff exercises themselves will occasionally fail to play their instructional role; they do not encourage trainees to innovate and experiment, because they reduce to nothing more than repetitions of what has already been approved and done in the past. This is a situation which cannot be tolerated. Without any attempt to undertake new approaches, to break out of the mold of past conventions, both in the course of the everyday routine and on exercise, there will be no basis for even discussing the need for creatvity and innovation in staff work.

We will frequently see instances in which a staff officer will be working extraordinarily hard, the lights will be burning late in his office, but we really can't see that he's accomplishing anything. The problem is not, of course, that he's not industrious enough, or that he's not taking the proper pains with his work. Everything turns on the way he goes about things, on the approach he takes to his work. If he confines himself and his activities to what he can get done in his office he is depriving himself of the opportunity to keep his finger on the pulse of events and spot new and innovative trends and approaches developing within his subunits in the course of training exercises and competition. Success in staff work will come to the individual who exerts his maximum effort at the point where the fate of plans and obligations is being decided, who keeps in continuous touch with the innovators and creative thinkers and who participates enthusiastically in personnel educational and indoctrinational programs.

As our armed forces approach the conclusion of their winter combat training it would be appropriate to call attention to the heavy responsibility which rests upon the staff officer in connection with his involvement in a particular type of subunit, unit and ship inspection. They must be highly competent and capable

of analyzing all problems involving training performance and the general discharge of military responsibilities on the part of all our personnel from the point of view of the interests of the state and the responsibility of the individual for contributing to the effort to increase the country's defensive strength. In undertaking his visit to a subunit in the role of inspector, the staff officer should keep in mind the fact that it is primarily he who is responsible for insuring that the process involved in compiling performance results constitute for each individual soldier a true school of exactingness, steadfast devotion to principle and a school in which he develops an instinctive intolerance of second-rate performance. It is very important here that the staff representative combine the exactingness and devotion to principle demanded by the party with the highest degree of exactingness which he imposes upon himself and with a desire on his part to help people and achieve real improvement in a particular situation.

The success a staff officer has in the discharge of his official responsibilities and the development of his own moral makeup are going to depend in large part upon the effectiveness of the staff party organization. It is very important here to give timely support to any beneficial initiative and yet at the same time not to look through fingers at mistakes and wrongdoing, particularly in the case of misconduct, for it must be borne in mind that the staff officer is himself a unique standard, one against which everyone else is going to be measuring himself. It is imperative that we do everything possible to invigorate our staff party organizations and increase the effectiveness of the work they do.

The staff officer... In our estimation he is an individual from which there will always be something to learn, an individual to be emulated, an individual who speaks for the new and the innovative. So let all who have been given the right to call themselves staff officers bear this high title with honor and dignity.

8963
CSO: 1801/294

ARMED FORCES

KRASNAYA ZVEZDA IDENTIFIES OFFICERS

PM051127 [Editorial Report] Moscow KRASNAYA ZVEZDA in Russian 1 January 1984 first edition front-pages under the general heading "Our Martial Labor for the Motherland" a feature pegged to the new year which includes a 200-word report entitled "In Honor of the Front-Runners" by an unnamed "our correspondent" from the red banner Volga Military District noting that a new year meeting at the military district was addressed by "Lieutenant General N. Stolyarov, the district's first deputy commander"; and a 700-word report telegraphed from the red banner Far Eastern Military District by correspondent Colonel A. Zakharenko under the heading "Guarding the Morning" which notes that the correspondent had a talk with "Aviation Colonel General A. Zakrevskiy, commander of the district's air forces."

Moscow KRASNAYA ZVEZDA in Russian 4 March 1984 second edition front-pages a 300-word report by Captain Second Rank A. Zlydnev which describes the presentation of a komsomol central committee challenge red banner to the komsomol organization of the guards' missile cruiser "Varyag," stating that the presentation was made by Vice Admiral G. Khvatov, who is identified as "Chief of Staff of the Red Banner Pacific Fleet.

Moscow KRASNAYA ZVEZDA in Russian 13 March 1984 second edition front-pages a 600-word article by own correspondent Lieutenant Colonel I. Varfolomeyev under the heading "Chief Engineer," which identifies Colonel Engineer L. Oleynikov as deputy chief of radio troops at the Moscow Order of Lenin Air Defense District and outlines his career. The article is accompanied by a full-page photograph of Oleynikov.

Moscow KRASNAYA ZVEZDA in Russian 12 May 1984 second edition front-pages a report on the opening of the museum of the history of the red banner Far East Military District which identifies Lieutenant General N. Kizyun as district military council member and political directorage chief.

CSO: 1801/314

FLIGHT DIRECTOR ENSURES SUCCESSFUL LANDING

Moscow KRASNAYA ZVEZDA in Russian 1 Apr 84 p 2

[Article by Captain A. Aranyshev: "Cleared for Landing, For Flight Safety"]

[Text] The thunderous roar of jet turbines filled the air. The supersonic aircraft then took off at short intervals one after another. Operations at the airbase were proceeding with the rhythm of a well-tuned machine. Lieutenant Colonel V. Tikhonov, the flight operations officer, would enter information in his planning chart and notebook every now and then as he calmly and matter-of-factly communicated with the crews in the aircraft. Perhaps only the knitted brows drawn toward the bridge of the nose and the look of concentration betray the officer's intense engagement.

Other traffic control group specialists are also at work in the takeoff control tower as well. But the officer with the red armband on his sleeve with the clearly visible white "RP" (flight control officer) [rukovoditel' poletov] on it is the man in charge here. He receives a continuous flow of all necessary information. He performs the basic task of insuring the continuous, reliable and efficient movement of traffic in the air. This is both critically important and difficult. It is a task which requires readiness at any second to take action in the most unexpected situations, situations in which time is measured in instants.

Major S. Cherevik, combat pilot 1st class and deputy squadron commander for political affairs, takes off at his assigned time. He has been flying in the same regiment with Tikhonov for over ten years now. The flight control officer follows the the missile-carrying aircraft up with a routine glance and makes a note on his time-display board: everything normal.

The pilot, in the meantime, has accelerated to his maximum speed so he can "launch" his aircraft to its highest possible altitude. There's the usual series of commands and reports, dry and laconic. Nothing unnecessary: "Afterburner on," "Accelerate"....

From his position in the control tower, the flight operations officer could make out the contrail Cherevik's aircraft was leaving in the sky. He could visualize clearly just what the pilot was doing at this point. From the psychological point of view this was entirely understandable: Tikhonov himself had flown this mission many times; he personally had accumulated some 2000 hours of flight time.

The flight control officer was now on the alert for Cherevik's next report: it was a critical moment. But the radio waves brought in information which was definitely not what the people on the ground were expecting:

"Altitude 16,000. Intense vibration. The engine failure warning light has just come on!"

Tikhonov guessed what the problem was immediately: the engine had probably stalled since there was something wrong in the air intakes. He responded instantly:

"Go to automatic control system. Your speed?" and with that he turned his attention to other pilots in the air: "All pilots work only on receive!"

He had to do this to keep someone from inadvertently preventing Cherevik from communicating with the control tower. The situation now tightened the nerves to their tautest. A special flight situation! The pilot and the flight operations officer were now the main actors on the stage. Both were experienced combat pilots. Only one was now in the air and the other on the ground. But they functioned as though they were a single crew: efficiently and well-coordinated. Radar and direction-finder operators provided the necessary support. Everybody on the ground without any immediate flight responsibilities had fixed their eyes on the end of the runway in anticipation of the appearance of the aircraft which had just developed trouble. But the missile-carrier was just then beginning its descent from the stratosphere.

It's no simple business to pilot a combat aircraft with an engine functioning unstably. Tikhonov knew that the pilot was experiencing sensations like you get on the centrifuge. But the centrifuge always rotates in the same direction; in this case the pilot was having to guess what was going to be happening from one second to the next, how the aircraft was going to behave.

The vibration decreased only after the engine had been switched off entirely during the descent. The pilot reported his decision to retract the wedges in the air intakes as an emergency measure. It was 7000 meters to the ground. 70 kilometers back to the base.

He had enough altitude. He could glide another few thousand meters, and if he still could not restart the engine he could eject. But he wasn't thinking of that just yet. The main thing was that a good reserve of altitude would increase his chances of being able to save the aircraft. The pilot and flight operations officer were now motivated by a single desire — to get the missile-carrier safely back to the base.

"Try to restart your engine!" Tikhonov instructed. "Throttle low. Watch your rpm's!"

The instructions came through as calmly as could be imagined, as though this were an emergency flight situation drill in a classroom simulator.

The seconds were melting away, the tension rising. But then the long-awaited reports began to come in: "Rpm's at 40 per cent.... Fifty.... Seventy...."

The rpm's were increasing! Tikhonov heaved a sigh of relief — the engine had started right up on the first try. What a remarkable piece of equipment!

There was still a certain amount of tension in the air, though, what with the fact that everybody knew there was still a chance that this could happen again — they still did not fully understand what had caused the failure in the first place. But they could now be reasonably sure that the pilot was not going to have to abandon the aircraft.

Lieutenant Colonel Tikhonov slowly wiped his sweaty palms and felt his pulse gradually returning to normal. Just a second or so ago he hadn't been giving any thought to these sensations — there just wasn't time to.

Major S. Cherevik, meanwhile, was bringing his aircraft in for a landing. Tikhonov was pleased with the self-control this officer had demonstrated. The pilot's voice came in over the radio calmly and confidently. This had been a situation in which even a more experienced pilot could have lost his head. But Cherevik had displayed courage and self-control: this was the result of his good psychological conditioning.

The flight operations officer had instructed all traffic to clear the airspace in the vicinity of the base. Special emergency equipment was standing by just in case it might be needed. But the wheels of this high-speed aircraft were just then making gentle contact with the runway. The dancing brake parachute filled with air.

"Engine off," Tikhonov instructed, his last command after the jet had come in off the runway.

During the critique and analysis of this emergency situation it was agreed absolutely that both the flight operations officer and the pilot had taken the correct action. The cause of the failure was determined to be inadequate preparation of the aircraft for takeoff. An aircraft technician was responsible. And this is occasionally what happens: a good, experienced specialist will overlook something one time during his inspection of a piece of equipment and this can lead to an irretrievable situation. I'm not going to mention his name because this senior lieutenant of technical services has already gone through a lot because of what happenend.

The battle to save the life of this pilot and his costly aircraft lasted seven minutes. These seven minutes took a considerable spiritual toll in the case of Lieutenant Colonel Tikhonov. But this experience does not seem to have found any particular reflection in his face. It may perhaps have deepened a little wrinkle on his forehead or maybe a little shadow has set in under his blue eyes — the effects of extreme nervous tension.

An emergency flight situation. This requires high degrees of skill and coolheadedness on the part of everyone responsible for insuring safe flight operations.

8963
CSO: 1801/294

FOREIGN MILITARY AFFAIRS

TABLE OF CONTENTS: ZARUBEZHNOYE VOYENNOYE OBOZRENIYE NO 3, 1984

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 3, Mar 84 (signed to press 14 Mar 84) pp 1-2

Articles by Soviet authors and the chronicle were prepared from materials of the foreign press. The issue used illustrations from the reference work "Jane's," and from the following journals: AVIATION WEEK AND SPACE TECHNOLOGY, ARMY RESEARCH, DEVELOPMENT AND ACQUISITION MAGAZINE, INTERNATIONAL DEFENSE REVIEW, SIGNAL, FLIGHT, FLUG REVUE, AIR INTERNATIONAL, AIR FORCE, AIR ET COSMOS and U.S. NEWS AND WORLD REPORT.

6904
CSO: 1801/297

RESEARCH, PRODUCTION PROGRAMS FOR U.S. MEDIUM RANGE MISSILES

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 3, Mar 84 (signed to press 14 Mar 84) pp 29-33

[Article by Lt Col B. Vladimirov and L. Nikolayev, candidate of economic sciences; passages rendered in all capital letters printed in boldface in source]

[Text] In the late 1970's and early 1980's imperialist circles headed by the United States set a course toward an open military-political confrontation with the Soviet Union and the world socialist system as a whole. Attempting to divert workers of their own countries from insoluble social-economic problems inherent to capitalism and to justify preparations for a nuclear conflict, governments of the United States and a number of states of Western Europe began to whip up militaristic hysteria and exaggerate the myth of the "Soviet threat." Military preparations stepped up in the United States in particular with the arrival of the Reagan administration to power. The military budget reached record proportions and the economy's level of militarization grew sharply. A course was set toward an accelerated build-up of the state's military potential and toward an increase in combat readiness and technical outfitting of the Armed Forces.

The priority in financing was given to programs for developing and producing new models of weapons and combat equipment (the MX ICBM; the Midgetman; the Trident-2 SSBN; the B-1B strategic bomber; air, sea and ground based cruise missiles; laser, beam and neutron weapons, and so on). A strategy of "direct confrontation" with the Soviet Union, which was officially declared the "chief enemy," was elevated to the rank of official White House policy. The task of achieving military superiority over the USSR and other countries of the socialist community no matter what was set as the primary task.

A speech by Comrade K. U. Chernenko at a pre-election meeting of the electorate emphasized that "recent years have been marked by a sharp activation in the policy of the most aggressive forces of American imperialism--a policy of open militarism, claims to world domination, resistance to progress, and violation of the rights and freedom of nations."

Programs for developing medium range missiles and stationing them on the territory of a number of countries in Western Europe holds an important place in

the Pentagon's plans for preparing for war. The installation of ground based cruise missiles and Pershing-2 ballistic missiles here is aimed directly toward undermining the military-strategic balance which has taken shape in Europe and the world and toward giving the United States unilateral advantages.

The NATO leadership is attempting to present the decision for stationing American medium range missiles as some kind of "modernization" of the U.S. nuclear missile forces, but even foreign press articles call the ground based cruise missiles and Pershing-2 ballistic missiles fundamentally new weapon systems. Their installation in European countries of NATO not only disrupts an approximate military balance in medium range weapons on this continent, but also the balance of strategic forces between the USSR and the United States inasmuch as, with respect to the Soviet Union, these missiles represent strategic weapons intended for delivering a so-called "disarming" strike against strategically important targets on its territory.

The cruise missiles and Pershing-2's usually are viewed together in the press and in statements by political and military figures in the West. They represent a special category of arms which, according to a NATO political decision dated 12 December 1979, are intended for deployment in five countries of Western Europe (the FRG, Great Britain, Italy, Belgium and the Netherlands). But both the Pershing-2 ballistic missiles and ground-based cruise missiles are independent weapon systems and they are being developed and financed under separate programs.

The BGM-109 GROUND BASED CRUISE MISSILE has been under development since 1977 under a U.S. Air Force order, based on the Tomahawk sea-based cruise missile and intended for delivering nuclear strikes against hardened targets as well as administrative centers in the USSR and other Warsaw Pact states. It has a flight range of 2,500 km and a nuclear warhead yield of around 200 KT. The combination guidance system used in the missile, consisting of an inertial navigation system with radio altimeter and the TERCOM matching system[1], provides high target kill efficiency. According to foreign press data, the circular error probable in a flight to maximum range equals several tens of meters.

The launch of ground based cruise missiles is from mobile transporter/erector/launcher vehicles [TEL's], each of which contains four transport-launch canisters with missiles. The flight is the basic cruise missile organizational unit. It includes four TEL's and two mobile launch control centers, which provide a remote check and launch of all 16 missiles of the flight. Launch control centers are installed on vehicular trailers and fitted with equipment displaying the technical status of the cruise missiles, for performing prelaunch and launch operations, and for inputting flight data to the on-board missile EVM's [electronic computers]. The TEL is a multiwheel semitrailer towed by the M818 standard prime mover. The plans are to deploy a total of 29 ground-based cruise missile flights.

1. For more details about this see ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, No 11, 1981, p 49--Ed.

The U.S. Air Force began flight tests of these missiles in 1977. Launches were made from an experimental launcher with two rails on a vehicle trailer. Since May 1982 flight testing of the cruise missiles has been conducted at a range in Utah employing a production model of the mobile launcher with four transport-launch canisters.

U.S. Defense Department Appropriations for Development, Production and Deployment of Medium Range Missiles (by fiscal years)

Program Sections	1978		1979		1980		1981		1982		1983		1984	
	Number	Millions of Dollars	Number	Millions of Dollars	Number	Millions of Dollars	Number	Millions of Dollars	Number	Millions of Dollars	Number	Millions of Dollars	Number	Millions of Dollars
BGM-109 ground-based cruise missile			-											
Procurements*	—	—	—	20.2	—	8.2	11	164.1	54	350.5	84	458.5	120	616.7
R&D		18.7		33.1		59.5		107.6		80.1		28.6		36.5
Military Construction		—		—		—		22.2		74.5		75.0		172.1
Total:		18.7		53.3		67.7		293.9		505.1		562.1		825.3
Pershing-2 ballistic missile														
Procurements*	—	—	—	—	—	—	—	2.3	21	210.3	91	453.6	95	432.8
R&D		—		—		145.8		149.4		150.6		111.0		22.8
Military Construction								3.9		—		0.8		—
Total:		—		—		145.8		155.6		369.9		565.4		455.6

*Including appropriations for procurement of spare parts and parts with a lengthy production time

Preparation of a production facility for series output of the missiles began in 1979. Work under the program stepped up considerably in 1981 after the Reagan administration came to power. Procurement of cruise missiles has been financed since that time. The sums for acquiring cruise missiles grew annually, reaching $616.7 million in the current fiscal year (which began on 1 October 1983) (see table). The total amount of appropriations for the program in FY 1984 is set at $825.3 million, which is 46.8 percent more than in FY 1983 and 12 times more than in FY 1980. The U.S. Congress sanctioned procurement of 269 ground based cruise missiles worth $1,618.2 million for fiscal years 1981-1984. There were $364.1 million appropriated for development of the missiles as a whole and $343.8 million to conduct military construction work for deploying the missiles. Total expenditures under the program exceeded $2.3 billion for the period 1978-1984. It is planned to allocate $534 million in the upcoming fiscal year for producing another 120 cruise missiles.

The overall program for acquiring ground-based cruise missiles presently is valued at $3.6 billion which, according to foreign press reports, is almost double what was assumed when the program was approved ($1.9 billion in 1977). The United States bears all expenses for development and production of the ground-based cruise missiles, with its NATO partners paying a portion of expenses for stockpiling and deployment of the missiles.

The primary firms participating in production of ground-based cruise missiles are General Dynamics (the general subcontractor for the weapon system and cruise missile assembly, Fig. 1 [figure not reproduced]), Williams Research (production of small turbofan motors), Litton Industries (development of inertial guidance system), and McDonnell Douglas (production of TERCOM matching guidance system).

The program envisages production of 560 missiles, of which it is planned to deploy 464 in Europe and to stockpile 96 in the United States as reserve missiles. According to an agreement reached in 1979 between the United States and European NATO member nations, 160 cruise missiles are planned for deployment in Great Britain (including 96 at Greenham Common and 64 at Molesworth), 112 in Italy (Comiso), 96 in the FRG (Bitburg), 48 in Belgium (Floren) and 48 in Holland. The first lots of missiles began to arrive in Great Britain (at Greenham Common) as early as November 1983.

The American leadership is attempting to present a fundamentally new missile weapon system--the PERSHING-2 BALLISTIC MISSILE--as a "modernized" version of the Pershing-1 missile systems deployed in Europe. In reality, it is a nuclear first strike weapon thanks to high tactical-technical characteristics and short flight time to the target (5-6 minutes), and it is aimed above all at USSR entities of state and military control and at administrative, industrial and other targets on the territory of the Soviet Union and other socialist states.

The Pershing-2 is a two-stage medium-range solid-fuel missile. Its use of the RADAG (Radar Area Guidance) guidance system based on a radar terrain map on the terminal leg of the flight path permitted a significant improvement in accuracy of target kill.[2] According to American press reports, for example, the circular error probable in one of the launches was 25 m.

A new monobloc nuclear warhead (Fig. 2 [figure not reproduced]) with variable yield (10-50 KT) is installed on the missile. The burst can be air, surface or subsurface (with the use of a penetrating warhead, the casing of which is made of high-tensile steel).

Advanced development of the new missile, designated the Pershing-2, was performed by the firm of Martin Marietta under contract with the U.S. Department of the Army during 1974-1978. The contract cost was $70 million. Based on results of this work the American administration decided to begin full-scale

2. For more details about the Pershing-2 cruise missile see ZARUBEZHNOYE VOYENNOYE OBOZRENIYE, No 1, 1982, pp 38-42--Ed.

development of the Pershing-2 missile, and in conformity with this decision a new contract was concluded with the aforementioned firm in February 1979 for the sum of $360 million. Its performance period was set at 56 months. Initially it was planned to conduct 28 test launches of the new missile, but subsequently their number was reduced to 18. The Pentagon accelerated development in every possible way, ignoring criticism of this system connected with numerous failures during flight tests due to design deficiencies (five of the eighteen launches were unsuccessful).

Martin Marietta is the general subcontractor for developing the missile, as well as its developer. Motors are being produced by the Hercules firm, the inertial guidance system by Singer-Kearfott, and the RADAG guidance system by Goodyear Aerospace.

As the foreign press reports, specialists of the Martin Marietta firm are studying a variant for fitting the Pershing-2 ballistic missile with a conventional warhead for delivering strikes against enemy airfield runways. Several years ago they already were examining the prospects for such a solution (under a two-year contract with the Department of the Army). The contract was suspended after a year, however, due to difficulties in funding the program. At the present time, according to foreign press estimates, opportunities for obtaining funding for this program as well as for others have increased noticeably in connection with the Reagan administration's conduct of a clearly militaristic course. It is planned to deploy these missiles in fixed, hardened shelters. Use of a mobile version also is possible.

Immediate financing under the Pershing-2 program has occurred since 1980. The Reagan administration made the decision to prepare a production facility for manufacturing the new missile in 1981 (almost two years before completion of the system's full-scale development). In the FY 1982 budget the U.S. Congress approved appropriations for procuring the first lot of 21 missiles. A contract for their production was signed by Martin Marietta in June 1982 and the U.S. Defense Department requested $508.6 million for production of 91 missiles and $111.3 million for continuing development for FY 1983. Considering the fact that by that time the models had not yet undergone prescribed tests the U.S. Congress, after long debates, did not provide for allocating funds for procurement of the Pershing-2 ballistic missiles in the basic military appropriations law for FY 1983. Only a request for financing R&D under this program was approved. In connection with this the Pentagon presented a supplementary appropriations request for procuring 91 missiles valued at $478.3 million to implement NATO plans in the course of 1983. Under pressure of the U.S. military-industrial complex the House of Representatives approved the acquisition of 91 missiles for $453.6 million in May 1983. The American Senate supported the House resolution.

According to foreign press reports appropriations under the Pershing-2 program are valued at $455.6 million in the current fiscal year, of which $432.8 million are for procuring 95 missiles. A total of $1,692.3 million was spent on the Pershing-2 program during fiscal years 1980-1984, including $1,108 million for military construction work. In FY 1985 it is planned to finance the production of another 104 missiles costing $431.4 million. The total cost of the

Pershing-2 program at the present time is $2.7 billion (the initial estimate made in 1979 was $1.7 billion). No data are being published about the number of missiles planned for production for the entire effective period. As the foreign press reported, in 1979 the FRG gave its preliminary consent to the stationing of 108 Pershing-2 missile launchers on its territory. On 22 November 1983 the FRG Bundestag adopted a resolution about stationing these missiles by a slight majority of votes. The first lot arrived in the country in late November 1983, literally several days after the resolution was adopted. The right to use the Pershing-2 ballistic missiles as well as the ground-based cruise missiles remains with the United States, which thus places European countries under attack; their security will depend on a decision made abroad.

An examination of specific measures taken by U.S. ruling circles to implement the Pershing-2 and ground-based cruise missile programs clearly shows that for the American administration the NATO "dual decision" is only a screen which concealed the U.S. unambiguous resolve to deploy the latest first strike nuclear weapons at the threshold of the socialist countries. All these years the United States constantly adhered to a militaristic course, using the Geneva talks for limitation of nuclear weapons in Europe only to conceal its true goals. Now when talks have broken off through the fault of Washington and governments of the FRG, Great Britain and Italy (which are being led by Washington) and the stationing of new missiles in Europe has begun, the smoke screen has been completely dispelled and the world has seen with all obviousness the aggressive, militaristic plans of the 20th century "crusaders." This generated an unprecedented wave of antimissile and antiwar demonstrations and stirred up public opinion in all countries.

The USSR is doing everything possible to prevent a new, extremely dangerous spiral of the arms race. K. U. Chernenko emphasized that the Soviet Union views "the prevention of nuclear war as the chief goal of its foreign policy."

6904
CSO: 1801/297

U.S. SEPARATE ARMORED CAVALRY REGIMENT

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 3, 1984 (signed to press 14 Mar 84) pp 39-44

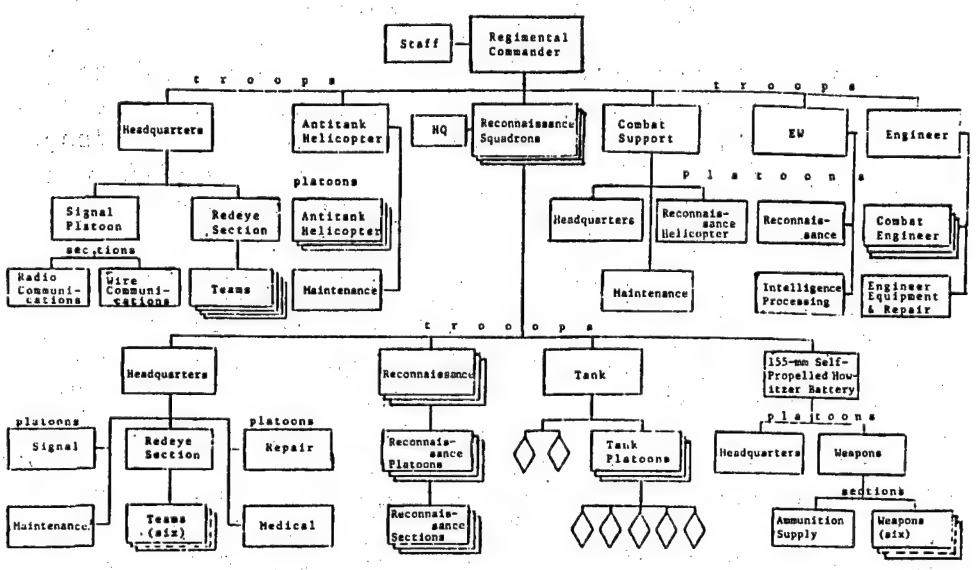
[Article by Col A. Yegorov, candidate of military sciences, docent; passages rendered in all capital letters printed in boldface in source]

[Text] To carry out its aggressive plans, the U.S. Armed Forces command intensively continues to improve tactical mobility and build up the firepower and shock force of the ground troops. It outfits them not only with nuclear, but also with precision conventional weapons, it is developing an optimum organizational structure for large units [soyedineniye], it is perfecting the operational and combat training level of staffs and troops, and it is seeking the most expedient methods for embodying the large units, units [chast'] and subunits in basic kinds of combat.

In describing the nature of possible combat actions, the foreign press notes that they will be distinguished by high dynamics, the absence of clearly defined front lines and flanks, an enormous spatial scope, broad use of all kinds of aviation, by intensity and simultaneousness to the entire depth of the troops' operational alignment, by their dispersal laterally and in the depth, by high maneuverability of the large units, units and subunits, and so on. American military specialists believe that under these conditions the capability of large units, units and subunits to conduct independent actions acquires particular importance. It is emphasized that armored and mechanized divisions as well as similar separate units and subunits are most suited in this respect. The latter also include separate armored cavalry regiments, which possess great shock force, mobility and battlefield protection.

As the foreign military press reports, the separate armored cavalry regiment (obrkp) is an independent combined-arms unit of the ground forces and is included in army corps. It is intended for performing reconnaissance for the army corps and executing screening and security missions for large units or formations [ob"yedineniye] in combined-arms combat and in an operation. In addition, under certain conditions the regiment can be employed as a conventional combined-arms unit for conducting an attack, usually on secondary axes, for defending individual terrain sectors, and for retrograde operations with a limited objective. In certain instances it can be attached to a first echelon division operating on the main axis at full strength or in separate subunits.

In the opinion of foreign military specialists, the regiment is capable of conducting effective ground and air reconnaissance and combat actions on varying terrain, successfully countering enemy tank units and subunits, crossing terrain sectors contaminated by radioactive substances and toxic agents, and accomplishing other missions under difficult conditions of a combat situation. It has modern tanks, APC's, combat reconnaissance vehicles, antitank missile systems (PTRK's), self-propelled artillery systems and various types of helicopters including antitank helicopters. Judging from numerous reports it is made up of a command element, headquarters, headquarters troop, three reconnaissance squadrons and the following troops: antitank helicopter, combat support, electronic warfare [EW] and engineer (see diagram).



Organization of U.S. separate armored cavalry regiment

The HEADQUARTERS is the regimental commander's primary control entity in combat; it assigns missions to the subunits in his name and updates them. Subordinate to it is a HEADQUARTERS TROOP, which provides communications for the command element and headquarters and screens the command post from air attack. It totals more than 170 persons, eight M113A APC's, four Redeye[1] portable surface-to-air missile [SAM] systems and some 40 vehicles of various kinds.

The RECONNAISSANCE SQUADRON is the regiment's basic tactical subunit. It includes a headquarters and five troops: headquarters troop (ten M113A1 APC's and one 66-mm light antitank rocket launcher), three reconnaissance troops (each with 12 M60A3 tanks[2] and 11 APC's, six each TOW and Dragon ATGM

1. Here and further in the text the term Redeye portable SAM system should be understood as being one fire team of two persons, armed with six Redeye SAM systems. They presently are being replaced by the Stinger portable SAM systems--Ed.
2. According to latest foreign press reports, the M60A3 is being replaced with the Abrams M1 tanks--Ed.

launchers, three RPG's [antitank rocket launchers] and three 106.7-mm self-propelled mortars) and a tank company (17 tanks and two APC's), as well as a battery of 155-mm self-propelled howitzers (six pieces and one APC). It has a total of some 970 persons, 53 M60A3 tanks, 46 M113A1 APC's, six M109A1 155-mm self-propelled howitzers, nine 106.7-mm self-propelled mortars, 18 TOW ATGM launchers, 18 Dragon ATGM launchers, ten 66-mm RPG's, six Redeye portable SAM systems, nine radars and more than 100 motor vehicles.

The ANTITANK HELICOPTER TROOP is intended chiefly for fighting tanks and other armored combat vehicles, and for destroying important enemy targets for the regiment, the higher commander or the unit to which it is attached. The troop has 220 persons and 37 various helicopters, of which 21 are the AH-1S fire support helicopters each with eight TOW ATGM's.

The COMBAT SUPPORT TROOP is intended for performing aerial reconnaissance and accomplishing combat support missions for the separate armored cavalry regiment or the higher command. It numbers 155 persons, 29 helicopters (16 Kiowa OH-58 reconnaissance helicopters and 13 Iroquois UH-1H utility helicopters), and around 30 motor vehicles of various types.

The EW troop performs the following missions: performs electronic intelligence [ELINT], jams radios and radars, conducts radio deception, and takes steps to ensure the security of its own communications equipment. It has some 250 persons, two EH-1H electronic intelligence and jamming helicopters, nine radars and 55 motor vehicles.

The ENGINEER TROOP supports the regiment's combat actions by performing engineer work, camouflaging positions, setting up barriers and obstacles, and performing engineer reconnaissance. It includes approximately 200 persons, ten APC's, various engineer vehicles and more than 20 motor vehicles. As the foreign military press reports, the separate armored cavalry regiment has around 4,000 persons (174 officers, 94 warrant officers and more than 3,600 NCO's and privates), 159 M60A3 tanks, 170 M113A1 APC's, 18 M109A1 155-mm self-propelled howitzers, 54 TOW ATGM launchers, 58 Dragon ATGM launchers, almost 40 60-mm antitank rocket launchers, 27 106.7-mm self-propelled mortars, 68 various helicopters (21 with the TOW ATGM, 29 reconnaissance, 16 utility, and two ELINT and jamming), 22 Redeye portable SAM systems, around 40 radars, more than 1,200 radios and over 500 motor vehicles.

At the same time it is noted that in the latter half of the 1980's the American command plans to make certain changes in the regiment's organization for the purpose of improving its tactical capabilities. In particular the plans are to have, in place of the antitank helicopter troop, a similar squadron (more than 80 helicopters, of which some 30 would have ATGM's), and to form an additional air defense battery (12 ZSU's [self-propelled air defense mounts]), a troop for defense against mass destruction weapons, and a logistical support squadron, and it is planned to include in the inventory the M3 combat reconnaissance vehicles, Apache AH-64 helicopters and the Sergeant York M988 ZSU (developed under the DIVAD program, see color insert [color insert not reproduced]).

The army command believes that the present-day organization and weapons of the separate armored cavalry regiment permit it to conduct combat actions with a sufficient degree of effectiveness both as part of the army corps and independently at any time of year or day. The following are some views of American military specialists on the regiment's tactical employment.

RECONNAISSANCE. As the foreign press reports, this form of combat support is most characteristic of an attack by the army corps. In this instance the regiment, which operates at a distance of 150 km from friendly forces and in a zone of 100-120 km, may receive missions for detecting the enemy, determining his order of battle and the nature of possible actions, uncovering reserve concentration areas and the location of means of nuclear attack, command posts, communications centers, airfields where army aviation is based and other installations, and tracking the advance of troops. It is planned to form up to three reconnaissance detachments (each up to a squadron in size), or 10-12 groups, or up to 40 patrols (up to a platoon) to accomplish them. It is noted that the reconnaissance detachment can perform reconnaissance in a zone 10-15 km wide, while the troop usually is given an axis or a zone for performing reconnaissance.

When the corps conducts defensive actions the regiment, as part of the screening forces, accomplishes reconnaissance missions chiefly with the equipment in its inventory. If necessary reconnaissance parties may be sent into the enemy rear. In some cases it is recommended that reconnaissance in force be conducted with the regiment's personnel and means to clarify the location of enemy forces and uncover his fire plan and weak places in the alignment of combat formations.

American military specialists believe it necessary to give reconnaissance subunit commanders an opportunity to show initiative in selecting those methods of action which would contribute to performance of assigned missions in the shortest possible time. Overall direction of the organization of the regiment's reconnaissance is exercised by the intelligence officer of the army corps or of the large unit in whose interests the regiment is operating.

SCREENING ACTIONS. As noted in American manuals, a separate armored cavalry regiment can perform missions of screening an army corps in the attack and on the defense.

The following missions can be assigned to a separate armored cavalry regiment performing missions of screening an army corps IN THE ATTACK: establish contact with the enemy, destroy screening and security units and subunits, preempt the enemy in occupying favorable lines, and seize tactically important terrain sectors and lines to create conditions for deployment and organized commitment of the corps main body. As American military specialists note, screening missions will be closely linked with missions of performing reconnaissance in the interests of the army corps. Because of this the regiment will be separated from the main body by a distance of up to 150 km and will operate in the corps zone of advance.

It is recommended that such actions by the regiment be organized to ensure broad maneuver of forces and means for the purpose of enveloping centers of contact. It is best to align the combat formation in a single echelon, especially at the time of closing with the enemy and during commitment.

The separate armored cavalry regiment also can screen the corps main body from the flank or flanks when there is no immediate contact with adjacent formations or large units. In this case the regiment's combat formation usually is aligned in one or two echelons and its combat actions will be supported by strikes of tactical and army aviation as well as by artillery fire. In some cases it may screen the corps main body as it withdraws by conducting delaying actions.

In conducting DEFENSIVE ACTIONS in the forward defense area security zone the regiment has the missions of leading the attacker astray relative to the true position of its main body, screening approaches to the main defense area, forcing the enemy to deploy prematurely and attack in unfavorable directions, and discovering the make-up of the attacking grouping and the concept and axis of the enemy's main attack. To conduct such actions successfully it may be reinforced with tank, motorized infantry, artillery and engineer subunits, EW and air defense means, as well as army aviation.

The foreign military press emphasizes that in performing these missions the regiment will operate in the army corps defense zone, usually across a broad front and at a considerable distance from the main body (up to 70 km from the forward edge).

Based on this, it is recommended that battalion tactical groups be formed on the basis of organic and attached subunits, and these will conduct primarily delaying actions in the forward defense area security zone across the entire corps defense frontage. As a rule the regimental commander is the commander of the screening forces until their resubordination to corresponding division commanders.

It is best to align the regimental combat formation in a single echelon with the assignment of a strong reserve, which can include one or two reconnaissance companies and the attached subunits. The reserve is intended chiefly for screening the main body as they withdraw, and for holding important terrain sectors, destroying enemy reconnaissance and other groups, and in some cases it also can be used to conduct a counterattack.

The reconnaissance squadrons usually align the combat formation in a single echelon with the assignment of a reconnaissance or tank troop in reserve. The subunits deploy at combat positions from which it is possible to conduct mutual support with maximum use of terrain relief and the fire of organic and attached artillery. Minefields and other obstacles are set up ahead of the forward edge of the positions, and sectors of fire and barrage lines are planned.

It is planned to allocate the antitank helicopter troop to the reconnaissance squadron so that its subunits can provide effective help in combating

enemy tanks, APC's, BMP's and other armored targets on distant approaches to the forward edge of regimental defense.

American military specialists recommend using the combat support troop centrally to perform aerial reconnaissance to detect the enemy on distant approaches and use fire support helicopters to deliver strikes against enemy personnel and combat equipment.

It is best to use the organic and attached artillery subunits centrally. In the opinion of western specialists, this will permit the regimental or battalion commander to concentrate their fire quickly on a threatened axis.

According to views of the American command, in performing screening missions all the regiment's subunits must function boldly and decisively, usually combining offensive, defensive and delaying tactics. It is emphasized that they must conduct active combat actions at successively occupied lines, with the distance between the lines determined by the assigned mission and terrain conditions (it can be 6-10 km). Their nature will be dictated by the situation at hand, which may force the regiment's subunits to shift to another line as the enemy approaches the first position or to continue fighting there and, making their actions conform with the enemy's advance, delivering strikes from the rear to dissipate the attackers' efforts and disorganize them. It is recommended that delaying combat actions be conducted up to the general outpost positions, after which the regiment's subunits disengage and occupy assigned positions in the main defense area of the army corps.

COMBAT ACTIONS. As the foreign press reports, the separate armored cavalry regiment can conduct combat actions as an independent combined-arms unit as part of the army corps while on secondary axes of the corps attack or in defense sectors, or independently with limited missions. In the ATTACK it is assigned the mission of defeating and destroying the enemy and capturing tactically important objectives or terrain sectors. In the army corps combat formation the regiment may be in the interval between first echelon divisions, on one of its flanks or on those axes where strong enemy resistance is not expected.

Western military specialists assume that in these cases the regiment will attack in a narrow (up to 4 km), normal (6-8 km) or broad sector of the front (10 km or more) and be reinforced with motorized infantry, tank, artillery and other combat and logistical support subunits.

Judging from foreign press reports, the regiment's combat formation and the depth of its immediate and subsequent missions (objective) depend on its place in the army corps combat formation, nature of the defense, opposing enemy forces and other factors. It is believed that in an attack with normal frontage the regiment will be assigned the immediate mission to a depth of 10-12 km and the subsequent mission 20-25 km deep. The performance of each of them is determined by the taking of a specific objective (line) on the terrain. The combat formation is to be aligned in two echelons, with two reconnaissance squadrons in the first and one in the second. When attacking in a narrow sector and against a well prepared enemy defense the formation will be in three echelons and the depth of a subsequent mission can be 35 km or more. In

conducting an attack across a broad front with weak enemy defense and insignificant strength of the enemy grouping the regiment usually has a single-echelon alignment (all squadrons on line) with the assignment of a reserve. It is deemed expedient to concentrate its main forces on the main axes, supporting them by artillery fire and helicopters.

The regiment's attack can be organized and conducted from the line of march or from a position of immediate contact with the enemy. In the opinion of military specialists, an attack from the line of march usually is to be carried out when nuclear weapons are employed or when the enemy has occupied a hasty defense and is inferior to the attacker in combat effectiveness and maneuverability. In this case the regiment usually advances to an initial line for an attack from the depth and enters combat either from the march or from concentration areas occupied in advance for a short time, 40-60 km from the line of contact of the sides.

In an attack from a position of immediate contact with the enemy the area occupied by the regiment's subunits is the line of departure for the attack. This form of combat is considered difficult inasmuch as it usually is carried out during an attack on a deliberate enemy defense and under conditions of the use of conventional weapons. Combat must be planned carefully and close coordination organized both in the regiment and with adjacent large units and aviation to achieve success.

Fire and air preparation is conducted immediately before the beginning of an attack. During combat it is recommended that the combat support troop be employed to reconnoiter the enemy in order to uncover his weapons, gaps in combat formation and the locations of reserves. It is planned to use subunits of the antitank helicopter troop chiefly to hit enemy tanks and other armored targets.

In all cases where the terrain facilitates tank maneuver, it is planned to include the squadrons' tank troops in the first echelon. But if the enemy defense is well prepared, especially in the antitank sense, then it is best to employ the tanks for accompanying and providing fire support to the motorized infantry, which attacks in APC's or combat reconnaissance vehicles.

The American command believes that during an attack the squadron commanders must be given initiative in choosing the maneuver, since surprise and swiftness of actions may catch the enemy unawares, especially during combat in the defensive depth, and hinder him in performing the necessary regrouping of forces.

It is emphasized that the squadrons must change the axes of attack more often for the purpose of attaining the surprise factor. It is recommended that strongpoints be attacked only if it is difficult to go around them and if they hinder performance of the assigned mission.

In the DEFENSE the separate armored cavalry regiment may be not only on a secondary axis, but also on the main axis where employment of tank or mechanized divisions is inexpedient because of terrain conditions and for other

reasons. The foreign press notes that when operating as part of the army corps the regiment must assume the defense in good time.

When the army corps conducts a mobile defense the regiment may be employed as part of the corps first echelon troops to hold a separate axis (terrain sector) of the main defense area, to act as forces screening the army corps main body, or it may be in reserve.

When in the first echelon the regiment may receive a defense sector up to 15 km wide. In this case its combat formation is aligned in two echelons with up to a reinforced reconnaissance squadron in the first and up to two such squadrons in the second. It is recommended that the antitank helicopter subunits be employed to deliver strikes against the flanks and rear of attacking enemy forces.

As a rule, combat is conducted by the method of delaying actions to force the enemy to attack along axes leading to areas previously chosen for his destruction. The regiment's second echelon is used to conduct counterattacks to destroy a wedged-in enemy at a favorable location and at the decisive time.

The separate armored cavalry regiment in the army corps reserve usually is given a location and a likely axis of counterattack. In conducting the counterattack the regiment is supported by aviation and various corps forces and weapons. After a successful counterattack conducted jointly with the corps main body and the enemy's defeat, the regiment moves into his pursuit.

When the army corps organizes a static defense the armored cavalry regiment may be assigned the mission of holding separate, tactically important terrain sectors. In this case its defense is based on maximum use of weapons, thorough engineer organization of positions and terrain, and the disposition of the regimental main body in the first echelon.

When the regiment is in the corps main defense area its combat formation usually is in two echelons, with two reinforced reconnaissance squadrons in the first and up to a squadron in the second. It is recommended that special attention be given to creating that fire plan, and above all an antitank fire plan, which would make most effective use of organic and attached weapons to destroy enemy personnel and combat equipment beginning with the distant approaches to the forward edge. The chief missions of defensive combat are considered to be prevention of an enemy penetration in the regiment's defense sector and inflicting maximum possible losses on the enemy. In case of a penetration of the forward edge and a wedge driven into the defense the regiment's second echelon conducts a counterattack to restore the lost position.

Those are some of the views of the U.S. Army command on employing the separate armored cavalry regiment.

6904
CSO: 1801/297

DECONTAMINATION EQUIPMENT IN ARMED FORCES OF FOREIGN STATES

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 3, Mar 84 (signed to press 14 Mar 84) pp 45-49

[Article by N. Leonidov]

[Text] In recent years the U.S. ruling circles are going further and further along the path of a build-up and improvement in mass destruction weapons in pursuit of aggressive goals. The United States and other NATO countries are carrying out extensive programs for the development and production of such barbaric means of attack as nuclear weapons, including neutron weapons as well as persistent binary OV [toxic agents], which are located at numerous depots in European countries of the North Atlantic Alliance, and above all in the FRG. Various measures presently are being taken to train the troops for using not only nuclear but also chemical weapons. Extensive use is being made of the experience of American aggressors who employed chemical weapons in Indochina. In preparing for a chemical attack the U.S. militarists also are developing means of protection against such weapons, realizing that they will receive a retaliatory strike, and at times they are also doing this for the purpose of concealing their ominous plans and for moral-psychological preparation of the armed forces and populace for war.

As noted in the foreign press, measures for organizing the personnel's defense and mopping up the aftermath of the use of mass destruction weapons (OMP) must be conducted by the troops themselves with the use of special subunits and equipment.

Decontamination is a component part of mopping up the aftermath of OMP use. It has the purpose of reducing the degree or fully precluding the contamination of personnel and giving them an opportunity to continue performing the assigned missions. According to requirements placed on decontamination in NATO countries, it must contribute to a more rapid return of contaminated weapons, combat equipment and personnel to formation, since retention of high troop combat effectiveness when conducting operations under conditions of OMP use will assure them of superiority over the enemy.

There are three kinds of decontamination in the armed forces of the main capitalist countries:* emergency, performed within one minute after contamination; partial, in which a large amount of substances (RKhB [radiological, chemical, bacteriological] substances) causing radiological, chemical and biological contaminationof weapons and military equipment as well as clothing and gear is removed; and complete, where the level of contamination of materiel with RKhB substances is reduced considerably.

Partial decontamination is performed both by resources of the subunits themselves which have been subjected to contamination, as well as by subunits for defense against OMP. Its purpose is to limit further contamination, reduce the danger of personnel injury to a minimum and accelerate the process of complete decontamination. Because of this measure there is an increase in the time during which the personnel can wear contaminated protective clothing and there is a considerable reduction in the duration of a natural drop in contamination of weapons and combat equipment. But all measures of defense against OMP must be followed even after performing partial decontamination.

As a rule, however, partial decontamination reduces the level only of radioactive and biological contamination, while persistent OV's, especially those which have gotten into lubricating oils and have been absorbed by dirt, rubber, canvas and painted surfaces, are difficult to neutralize or destroy with the help of such decontamination. Therefore the faster this decontamination is begun, the fewer persistent OV's will penetrate porous materials. In the opinion of American specialists, the decontamination must be begun no later than one hour after contamination to achieve the necessary effectiveness.

Complete decontamination is performed at special points. After it is performed the level of contamination of combat equipment with OV and radioactive substances drops to that level where personnel can go around without protective clothing and protective masks. If both the crews and equipment have been subjected to contamination they are decontaminated simultaneously.

Decontamination methods differ greatly, but as a rule there is common equipment (especially for complete decontamination). The very same can be said about its main components--radiological, chemical and biological decontamination.

In the armed forces of leading capitalist countries radiological decontamination of weapons and military equipment envisages the use of mechanical methods for removing particles of radioactive dust. Dry or wet decontamination can be accomplished. The dry method employs vacuum removal and wiping or sweeping with brushes, and the wet method uses a powerful stream of hot water at a temperature of 80° under a pressure up to 40 kg/cm^2 to wash away radioactive particles. Foams (solutions) of surface-active (detergent) substances containing complexing agents which hinder the penetration of radioactive particles into painted surfaces are used to achieve the requisite completeness of

*In the opinion of foreign experts, decontamination is subdivided into special decontamination (of weapons, military equipment, clothing, gear, terrain sectors, roads, supply points and other facilities), purification of water and personnel decontamination.

radiological decontamination. In the opinion of foreign specialists, special attention must be given to radiological decontamination of the radiators and engines of means of transportation as well as the engine compartments and drives.

The foreign military press notes that there are several methods for performing chemical decontamination, the most widespread of which are the processing of weapons and military equipment with hot water under pressure with additives of T/O&E chemical decontamination substances, and processing by high-pressure steam. The difficulty in performing chemical decontamination is that the OV's are absorbed quickly into paint, oils and dirt, and so there has to be preliminary processing of contaminated surfaces with hot water containing solvents of fats and oils as well as surface-active substances. The second phase is chemical decontamination itself (processing the surfaces with chemical decontamination compounds). After approximately 30 minutes the reaction products and unreacted chemical decontamination substances are washed from the surfaces of the processed objects. Existing methods and means for chemical decontamination do not satisfy specialists of NATO armies and so new more effective ones are being developed, on which demands are being placed for bringing them nearer the troop combat formations and reducing the number of servicing personnel, in addition to an acceleration of the time periods for performing decontamination. Work has stepped up in this direction in particular of late.

Hot water under high pressure or a more effective means--steam at a temperature of 140°--is used for biological decontamination. Reactive substances also are used to achieve a high degree of biological decontamination: derivatives of phenol, aldehydes and their derivatives, and others.

All equipment in the inventory of armed forces of capitalist countries is subdivided into partial and complete decontamination equipment. The majority of foreign armies give preference to the former, which allow decontaminating equipment using crew resources. The places primarily processed are those with which the crew comes in contact in performing a combat assignment (doors, hatches, steps, handrails and so on). According to standards existing in foreign armies, every means of transportation is supplied with one or two onboard decontamination devices (functioning according to the principle of a fire extinguisher), which are fastened on special brackets within the vehicles and are containers filled with T/O&E chemical decontamination solution under nitrogen pressure equal to around 16 kg/cm^2. The M11 device in the U.S. Armed Forces can be given as an example. When filled it weighs 2.8 kg, it is designed for 1.6 liters of DS_2 chemical decontaminant, and the stream of chemical decontaminant is 1-2 m long.

But the low capacity of T/O&E equipment and poor degree of chemical decontamination conducted with its help force the development of new devices. The U.S. Army Chemical Systems Laboratory in the city of Aberdeen, Maryland, is working on these developments in the United States. In particular, it has developed the XM13 chemical decontamination device, which differs from the T/O&E device by greater capacity (19 liters) and by a different principle of action (the chemical decontaminant is supplied to brushes, which permits processing places difficult of access (Fig. 1 [figure not reproduced]).

Equipment for complete decontamination--chemical decontamination vehicles and units--primarily are used by the personnel of subunits for defense against OMP at decontamination points. A typical feature of this equipment in all NATO countries is its versatility: it is intended for performing radiological, chemical and biological decontamination. In addition to decontamination of weapons, military equipment, clothing and articles of gear as well as terrain sectors, it can be used to perform personnel decontamination. In addition, the technical design of this equipment permits it to be used if necessary to extinguish fires, pump fluids (except for fuel) and so on.

The Armed Forces of leading capitalist states presently are conducting extensive scientific research aimed at developing new decontamination vehicles and units and modernizing those in the inventory, wherein more effective methods of decontamination are used which permit a reduction in its time periods. This was the purpose for modernization of the standard American M12A1 decontamination unit (Fig. 2 [figure not reproduced]). In addition to a power unit with pump, a tank with shower unit and a portable water heater, it has been supplemented with a steam generator. The M12A1 is intended for radiological, chemical and biological decontamination of weapons and military equipment, for partial personnel decontamination, for extinguishing fires using water or foam, to fight icing, to wash means of transportation and to pump various fluids (except for fuel). A suspension of calcium hypochlorite (chlorinated lime) is the chemical decontaminant.

The modernized unit is installed in the bed of a five-ton vehicle to increase its mobility and bring the decontamination process closer to the troop combat formations. Power needed for the unit's operation is developed by the vehicle engine. To speed up the processing of transportation equipment, hot water with the addition of chemical decontaminants is pumped into a device shaped like an arch through which the contaminated transportation equipment passes. As a result of the modernization the unit's productivity increased from 180 liters of decontaminant mix formulation per minute to 360 liters. Foreign specialists believe that its capacity and mobility also have increased and its capabilities have expanded.

Development has been completed on a new chemical decontamination vehicle with turbojet engine, performed by the U.S. Army Chemical Systems Laboratory over a number of years. The operator's cabin and turbojet engine are located on a special rotating platform. According to the developers' estimates, this design will allow the operator to direct a stream of exhaust gas accurately against the object being processed. To improve the quality of decontamination, the decontaminants are delivered through four attachments placed symmetrically at the end of the engine's exhaust pipe. A three-section canister with water and fuel is attached behind the driver's cab. Contaminated equipment passes between two decontamination units to speed up the decontamination. American specialists believe this vehicle will be irreplaceable in remote combat areas.

The Bundeswehr began a program for developing means of protecting troops against OMP in 1956. The TEP (Truppen-Entstrahlungs, -Entsenschungs- und Entgiftungs-Platz, Fig. 3 [figure not reproduced]) unit has become most widespread in the armed forces. It is a five-ton vehicle with improved offroad

capability equipped with a 1,500 liter water tank, a tank with an experimental chemical decontamination emulsion, a collector-heater with a steam generator, mounted equipment used to decontaminate terrain sectors, and devices for decontaminating weapons and military equipment as well as for personnel decontamination. The unit's productivity is low in connection with the fact that the steam is supplied under low pressure. In addition a large number of personnel is required to man it.

The FRG's scientific research center (city of Muenster) signed a contract with the Kärcher firm for developing more effective chemical decontamination units. The result of work by the firm was the development of a mobile and (according to foreign press reports) effective HDS-1200BK unit installed on the chassis of a quarter-ton Daimler-Benz vehicle with improved offroad capability. Its set includes tanks for water and the chemical decontamination emulsion, a unit for obtaining steam under a pressure up to 55 kg/cm^2, and other special equipment.

The HDS-1200BK unit (which operates in a temperature range from 0° to 200°C) is used for complete decontamination of weapons and military equipment, for steam-treating protective clothing and gear, and for personnel decontamination. Foreign specialists believe that it has a number of advantages over standard equipment: it is adapted for movements under all conditions, it has equipment to monitor the anticorrosion condition, and its water and power supply is self-contained. The pump permits taking water from natural sources from a depth down to 5 m. In addition the working compartment in which the operator is located is pressurized. The HSD-1200BK already is being delivered to the troops of a number of NATO countries.

In improving the decontamination equipment West German specialists developed the DECOJET chemical decontamination system based on the HDS-1200BK unit and installed in a vehicle with high offroad capability (Fig. 4 [figure not reproduced]). Its operating principle is that contaminated surfaces first are treated with hot water under high pressure, with chemical decontaminants added to it, and then they are treated with superheated steam under high pressure. The system's capacity in one hour is 250 liters of dry steam (at a temperature of 200°C), or 600 liters of steam (140°C), or 3,600 liters of water (30°C) at low pressure (this is sufficient for 30-40 persons and six vehicles).

In addition to decontamination, the system can be used for servicing equipment of all combat arms and, according to the West German specialists' estimates, fewer personnel will be needed for this. The DECOJET system also can be used to perform biological decontamination with steam, to coat helicopters with a protective anti-icing layer, for spraying on paint and varnish coatings which do not absorb OV, and for applying camouflage coatings to equipment.

Great importance is attached to personnel decontamination, accomplished using multipurpose chemical decontamination vehicles and units and special equipment. For example, the FRG has developed the DECOCONTAIN container-type system (Fig. 5 [figure not reproduced]) which can be transported on vehicles and helicopters or installed in a fixed condition at depots, air bases and other facilities. The container is divided into four compartments: undressing and

first aid room; shower room with devices for washing the wounded; station for checking completeness of chemical decontamination and for issuing clean clothing; support compartment which accommodates equipment for supplying electrical power and water, water heaters, washing machines, and devices used for decontamination of weapons and military equipment.

The second and third compartments have air filtration plants which provide a sufficient backpressure of air in them to preclude the possibility of RKhB substances entering. In addition, the first compartment has two gas-protected doors--an entrance and a door leading to the shower compartment. It has containers for clothing in which there is partial chemical decontamination of the clothing with dry steam under pressure. Personnel decontamination is performed by a pulsating stream of water to which special substances have been added. Protective masks are allowed to be removed only in this compartment. In the next compartment display devices are used to check the degree of decontamination of clothing and gear as well as the servicemen's skin.

The container can be fitted with additional equipment providing thermal insulation, fire safety and protection against the electromagnetic pulse of a nuclear burst, as well as with devices permitting its chemical decontamination from outside and inside. Two water tanks, each holding 1,000 liters and with double walls, are installed in the floor and ceiling. Water used for personnel decontamination is collected and reused for chemical decontamination of weapons, military equipment as well as terrain sectors.

The British Armed Forces hold somewhat different views on decontamination than in the armies of other NATO countries. In connection with the fact that the units and vehicles intended for these purposes do not provide for one hundred percent decontamination, the country's command element set a course toward teaching servicemen to perform individual decontamination. The Winterborne Hanner and Porton-Down centers are working to develop the equipment and methods for protection against OMP. Much attention also is being given to personnel decontamination. The chief problem is to mop up the aftermath of the use of chemical weapons, which has to take a minimum amount of time. According to estimates made by NATO specialists, with decontamination performed two minutes after the use of the sarin type neuroparalytic OV, the losses among contaminated personnel will be 20 percent; if the decontamination is performed five minutes after use, there will be 70 percent losses; and after 10 minutes it will be 100 percent losses.

The unit used for personnel decontamination is installed on the chassis of a Ford vehicle. The vehicle body (with dimensions 4.3 x 2.15 x 2.15 m), divided into two sections of 11 m^3 and 8 m^3, has a sturdy steel frame covered with plastic panels. The unit is deployed in five minutes. If necessary it can be used to perform decontamination of weapons and military equipment. In addition, a special container-type system similar to the DECOCONTAIN described above also is used for personnel decontamination.

The method of treatment with hot water under high pressure (over 170 kg/cm^2) is used in the units for performing complete decontamination of weapons and combat equipment. Chemical decontaminants can be added to the water. The

TM160, installed on a heavy trailer and operating from a diesel engine, can serve as an example of this type of unit. Hot water is supplied through a 30 m hose with a flow of 16 liters per minute.

The French Armed Forces also attach great importance to mopping up the aftermath of the use of OMP. There are various pieces of equipment and chemical decontamination formulas for weapons and personnel decontamination under field conditions. For urgent chemical decontamination of weapons and military equipment by the crews themselves each means of transportation is supplied with a portable chemical decontamination device (with a capacity of 2.5 liters), which is similar to the American M11 described above in tactical-technical characteristics, capacity, principle of operation and chemical decontamination formula.

Complete decontamination of weapons and military equipment is done using a chemical decontamination unit installed on a single-axle trailer. Its set includes two tanks (300 liters each) with a chemical decontaminant solution, high pressure pump, devices for taking water from natural sources, and equipment for extinguishing fires. The pump produces a pressure of from 10 to 40 kg/cm^2. Chemical decontamination is done by a stream of cold water under high pressure with the addition of chemical decontaminants.

Personnel decontamination is done at temporary points. Auxiliary means are used to process clothing and gear. The terrain is decontaminated with a solution of chlorinated lime.

In recent years the French Armed Forces have stepped up the work of improving decontamination equipment. The work is headed by a center for protection against OMP located in the city of Le Bousch. The French command believes that the presence of highly skilled specialists will permit developing new equipment and methods for decontamination.

In recent years the armies of foreign states have turned special attention to the use of special coatings which to a certain extent contribute to a reduction in time for performing decontamination of weapons and military equipment. For example, the U.S. Armed Forces have developed a paint and varnish coating which does not absorb neuroparalytic OV and mustard gas. As a result of completing an extensive program for developing means of protection, the Chemical Systems Laboratory proposed the use of a polyurethane paint with 11 camouflage tones for this purpose. In the opinion of American specialists this will considerably simplify and accelerate the chemical decontamination of weapons and military equipment.

6904
CSO: 1801/297

NEW MATERIALS FOR MANUFACTURING MOTOR VEHICLE BODIES

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 3, Mar 84 (signed to press 14 Mar 84) p 50

[Article by S. Agliulin and A. Ishkov]

[Text] The conditions for conducting combat actions in modern warfare place special demands on the reliability of vehicle bodies for mobile equipment of logistical services. Their reliability largely is determined by the material out of which they are made.

Substantial changes have occurred in body production over the last three decades. While the body of early models of vehicles had a wooden frame, which considerably decreased its useful capacity and service life, wood subsequently was replaced with curved sections and rolled steel (the facing continued to be wooden). Frame parts were joined by welding. As a rule, steel plates with nitrocellulose or epoxy coatings 0.8-1 mm thick presently have begun to be used for bodies of mobile logistical services equipment. Rectangular ridges from 5 to 10 mm deep with a 250-300 mm spacing can be made on steel panels to increase rigidity. Individual steel panels either are welded or are riveted with sunk rivets.

Since the mid-1960's firms of such countries as the United States, Switzerland and the FRG have begun to use aluminum alloys in producing bodies. The increased attention to this material was generated by the following reasons: a 20-40 percent decrease in body weight and 3-4 times greater life (in comparison with the steel body), a high fatigue limit and corrosion resistance, technological effectiveness of processing, the possibility of connection under pressure, and strength (at spot welding points after 10^7 load cycles the strength of steel decreases 20 percent, and that of aluminum by 13 percent). It is also noted that the repair of aluminum bodies costs half that of steel bodies.

The basic deficiency of aluminum bodies is their relatively high cost (15 percent higher than steel bodies). According to foreign press reports, studies conducted by the firms of Alcoa (USA), Alusuisse (Switzerland) and Kaiser Aluminum (FRG)--major manufacturers of aluminum panels for bodies--show that a 1 kg reduction in body weight produces a saving of $1.75 for the entire service life of the component. A 5-35 percent increase in cost is repaid in

1½-3 years because of profitability of shipments (the vehicle's own weight is reduced and load-carrying capacity is increased).

Foreign specialists give special attention to the interchangeability of aluminum panels, i.e., the modular construction of bodies. The thickness of such sheets varies from 1 to 5 mm, and their sizes vary. For example, the American Trailmobile firm produces two series of closed bodies (vans) for mounting on a truck chassis. Each series includes bodies with nine variations of length (from 2,743 to 7,315 mm) and three in height (2,134, 2,286 and 2,438 mm), with any combinations of these sizes possible. With a slight change in kinds of configuration, facing and profiles, the firm offers over 1,000 van variations in two series.

No small importance is attached to body design itself. All-metal bodies of the carrying type with a horizontal, level (nonstepped) floor have become most widespread in the West. They are adapted to the greatest extent for sectional assembly from standardized panels and for performance of cargo handling operations mechanically.

Carbon fiberglass, which allows a 50 percent reduction in weight with an increase in rigidity of conventional fiberglass, is becoming more and more widespread in connection with the rapid development in the production of polymer and synthetic materials of late in foreign body building. The firm of Dupont (USA) is producing a special material (aromatic polyamide) with a high impact strength, increased corrosion resistance and a 30 percent lesser density than fiberglass. Bodies made of "sandwich" type composition materials by the Delta firm (Great Britain), consisting of plywood, polyester fiberglass and acryloplast are finding wide use. The firm of Titgeveer (FRG) uses a multiply water-resistant bonded plywood with an outside coating of polystyrene and reinforced with fiberglass.

In the opinion of foreign specialists, the primary efforts of the developers of logistical services equipment are directed at the present time toward increasing the indices of the production and operating technological effectiveness of the component: reliability, repairability, and a reduction in weight of equipment and cost of an equipment model. Judging from foreign press materials, the leading place in body production today is occupied by aluminum alloys and fiberglass-reinforced plastics.

6904
CSO: 1801/297

U.S. AIR FORCE'S 601ST CONTROL WING

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 3, Mar 84 (signed to press 14 Mar 84) pp 51-56

[Article by Engr-Col F. Dmitriyev, candidate of technical sciences; passages rendered in all capital letters printed in boldface in source]

[Text] The arms race which has been unfolded by militaristic circles of the United States and its NATO partners has touched all aspects of the preparation of bloc armed forces for conducting aggressive wars in various parts of the globe. Imperialist countries are making especially intensive efforts in this direction in Central Europe, where they are preparing to conduct protracted combat actions with all branches of the armed forces both in a conventional and a nuclear war.

The foreign press notes that during these preparations considerable emphasis is being placed on improving command and control processes with the extensive use of the latest achievements of science and technology, including in the development of reconnaissance and data transmission and processing equipment. In the opinion of western military experts, the latter circumstance even now permits beginning the deployment of control systems for various purposes according to the new American concept for unifying the functions of command and control, communications and intelligence (Command, Control, Communications and Intelligence, or C^3I for short). This concept envisages that the primary command and control missions previously performed by forces (agencies) and means with poor interaction will be accomplished simultaneously and comprehensively within the framework of a unified system.

An American system for controlling the combat actions of tactical aviation, deployed on FRG territory, is being improved in accordance with the new provisions. According to foreign press reports, its modernization began in 1980. The greatest changes affected that part of the system included in the area of responsibility of the combat air actions control center (TsUBDA) of the 4th Allied Tactical Air Force (4th ATAF) at Sembach Air Base (its personnel and equipment are part of the 601st Tactical Air Control Wing of the U.S. Air Force European Command).

As the foreign press reports, in its present form the system being set up by the wing is intended for performing two basic missions: to provide for the interworking of U.S. tactical aircraft with the American Army V and VII army corps during their close air support; and to vector American fighters to air targets primarily in the interests of air defense of the grouping of U.S. Armed Forces deployed on FRG territory (the system also can be used to support air actions of West European NATO member nations).

In addition, wing personnel and equipment can take part in vectoring aircraft when they deliver strikes against targets located in the enemy's tactical defensive depth (including at night and under adverse weather conditions), in supporting an assault landing, aerial reconnaissance, the search and rescue of the crews of downed aircraft, and so on.

The 601st Wing includes ten squadrons (two for vectoring tactical aircraft and equipped with the OV-10A Bronco surveillance and target designation aircraft, one transport squadron equipped with CH-43 helicopters, two close air support squadrons, and five tactical air control squadrons), 12 flights (two for vectoring and ten for tactical air control), and several auxiliary subunits including specialist training schools (Fig. 1).

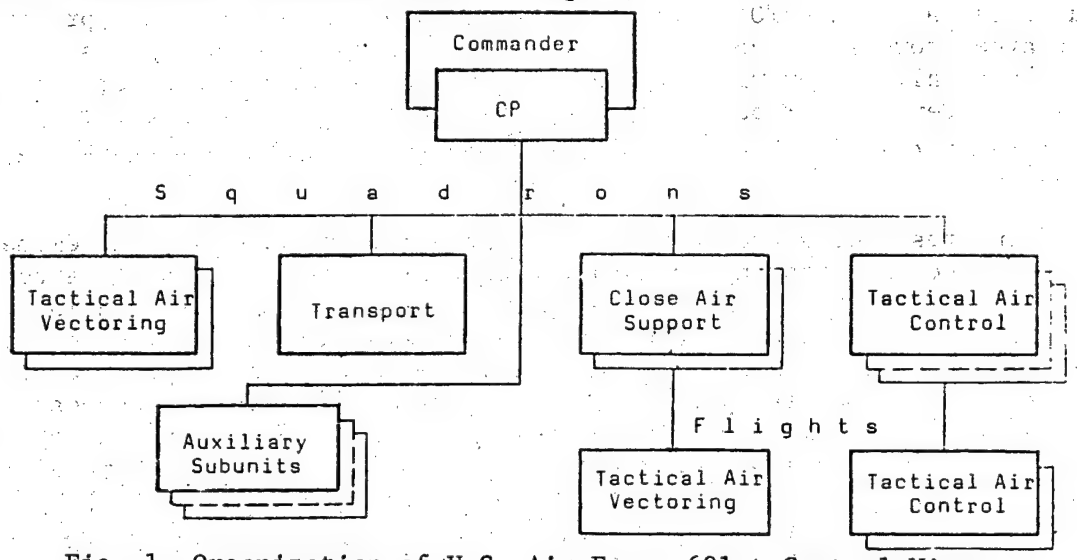


Fig. 1. Organization of U.S. Air Force 601st Control Wing

The foreign press notes that in personnel strength (almost 6,000), this wing is the largest in the U.S. Air Force. About half of it consists of duty shifts and subunits for manning the wing CP and alternate CP; the crews of OV-10 aircraft and CH-53 helicopters; officers at air support operation centers (OTsAP) deployed at combat operations control centers (TsUBD) of army corps, and of tactical air control teams (KUTA's) at the TsUBD's of divisions which are part of corps; and also liaison officers and forward air controllers in brigades and battalions.

The wing's main forces support combat actions of the 4th ATAF, and two of its tactical air control squadrons (the 606th and 609th) are deployed in the 2d ATAF area of responsibility.

In conformity with the organization adopted in the United States and NATO, the control system deployed by the 601st Wing's personnel and equipment is divided into two basic subsystems: close air support and control of tactical aviation when it accomplishes air defense missions.

CLOSE AIR SUPPORT is carried out by the close air support squadrons and the forward air control squadrons.

The CLOSE AIR SUPPORT SQUADRONS use their personnel and equipment to set up air support operation centers (OTsAP) at the TsUBD of the corresponding army corps, and tactical air control teams at the TsUBD of divisions included in these corps and at the CP's of their brigades. The mission of these entities is to collect and analyze requests for close air support and, in conformity with them, to distribute tactical air forces and to coordinate their actions by place and time with troop weapons.

Ground forward air controllers are assigned to first echelon battalions from the squadrons. The foreign press reports that it is planned to make maximum use of OV-10 pilots removed from flight duty as such air controllers inasmuch as the experience they have gained allegedly will permit more effective control in vectoring aircraft to targets.

It is also noted that the close air support squadrons are very saturated with various pieces of equipment, chiefly data processing, display and transmission equipment. For example, in order to move the equipment of just one OTsAP from home stations (one squadron is in Stuttgart and the other in Frankfurt/Main) to the positions takes 50 self-propelled transport units and 40 trailers.

Ground forward air controllers primarily travel in M113 APC's (each squadron has 60 vehicles) and jeeps (Fig. 2 [figure not reproduced]). All of them are fitted with VHF radios operating in the frequency modulated mode, as well as other equipment needed for target designation.

In addition the squadrons include tactical air guidance (control) flights (the wing presently has two such flights, and it is planned to form a third). The basic mission of these flights is to provide ground control of aircraft in attack groups when the actions of forward air controllers are ineffective, i.e., at night and in bad weather. Using special radars and communications equipment, the teams in these flights vector aircraft equipped with radar beacons to ground targets or reference points with an accuracy sufficient for them to drop bombs, make an assault landing, or drop reconnaissance-signaling devices, or vector them to the location of crews of downed aircraft and helicopters.

The flights are equipped with the AN/TPB-1 radars, which have antennas with very narrow radiation patterns, along with EVM's [electronic computers] for automating the process of tracking aircraft, and with radios for communication. All gear and equipment is accommodated in self-propelled and towed means of transportation, which gives the flights high mobility. According to western press reports a flight can be readied for a move to new positions in no more than six hours.

TACTICAL AIR VECTORING SQUADRONS are equipped with the OV-10 Bronco surveillance and target designation aircraft. The basic mission of these subunits is to support the interworking of American tactical strike aircraft with the ground forces. They have 42 aircraft and 110 pilots.

The foreign press emphasizes that the capabilities of the OV-10 aircraft (Fig. 3 [figure not reproduced]) to control from the air the delivery of attacks against ground targets is determined by their flight performance (the longest time in the air is 4½ hours, 6 hours with auxiliary fuel tanks; a capability of flying at extremely low altitudes, using vegetation and folds in the terrain for concealment against enemy visual and radar observation), and by the make-up of flight equipment. The aircraft has a VHF radio with the Have Quick communications scrambler, the AN/GRC-171 HF radio providing communications to distances greater than 2,000 km, the AN/ALR-46 reconnaissance receiver, airborne radar, and 14 free-flight rockets (NAR) with luminous tracers for marking ground targets. In the opinion of the wing's pilots, however, the OV-10 is not fully adapted for operations under the climatic conditions of the Central European TVD [theater of military operations]. In particular, they point out the possibility of the aircraft icing up, against which no steps have been taken. It is also mentioned that the OV-10 aircraft stationed in the FRG already have used up a considerable portion of their flying life.

The western press reports that it is planned to use these aircraft in pairs, with one of them flying near the line of contact with the enemy at extremely low altitudes (down to 30 m). Concealed behind folds in the terrain against enemy fire and the effects of jamming equipment, it reconnoiters ground targets and at the same time maintains constant communications with the forward air controllers. When the strike group comes within effective range of VHF radio communications the aircraft crew vectors the group to the targets using radio commands or it marks them using the aforementioned NAR. Patrolling at a higher altitude and at a distance of 40-50 km from the first aircraft, the other aircraft communicates with the strike group from the moment it approaches the army corps rear area until it switches to communications with the first OV-10. In addition, this aircraft provides operational communications of the forward air controllers and tactical aircraft with the TsNAP and with the KUTA, i.e., it operates as a relay.

The tactical air control squadrons and their flights have the responsibility of SUPPORTING TACTICAL AIRCRAFT IN ACCOMPLISHING AIR DEFENSE MISSIONS.

All these subunits, which are corresponding entities of the 407L fixed and mobile ASU [automated control system] network, have the mission of observing the air space, giving warning about the flights of enemy aircraft, controlling the flights of friendly fighters which are intercepting air targets, and controlling air traffic.

The wing has a total of five such squadrons: 601st (stationed in Pruem), 602d (Torhein), 603d (Sembach), 606th (Bremerhaven) and 609th (Bad Muender). Of these, the first three support flights of 4th ATAF aircraft and, as stated above, the latter two operate in the 2d ATAF area of responsibility. These

squadrons include ten tactical air control flights. As the foreign press reports, their permanent locations are scattered throughout FRG territory. In particular, the 611th Flight is in the vicinity of the populated point of Alza, the 612th at Pruem, the 619th and 629th at Schwelentrup, the 621st at Wiesbaden, the 622d at Bad Kreuznach, 626th and 636th at Nordholz, the 631st at Wuerzburg and the 632d at Grafenwoehr.

The TACTICAL AIR CONTROL SQUADRONS are equipped with automated versions of the AN/TPS-43E 3-D radars (Fig. 4 [figure not reproduced]), which provide for the detection of airborne targets at a distance up to 390 km. The pulse power output of the radar transmitters is 2.8 MW with an operating wavelength of around 10 cm. Coupling the radar with the EVM permits conducting an automated exchange of information with other radars and control entities (an external view of radar data display devices and radar control entities is shown in Fig. 5 [figure not reproduced]). In addition, as the foreign press reports, the data from one radar can go to 20 remote displays. In addition to the radars the squadron has a considerable amount of other equipment which gives it the capability of performing missions as a control and warning center (TsUO).

The foreign press emphasizes that the 603d Tactical Air Control Squadron, deployed at the 4th ATAF TsUBDA at Sembach Air Force Base, plays a special role as part of the wing's resources. Squadron personnel (more than 300 persons) perform operational readiness duty both at the center itself and at three radar posts (AN/TPS-43E radars) which cover the air space over the southern part of the FRG.

According to the foreign press, this squadron presently fulfills the functions of radar support to the West German air defense system, the equipment of which is being modernized. For this reason the squadron CP is connected with a number of control posts of the bloc OVS [Joint Armed Forces] and the EVM's which are part of the radar have the capability of exchanging data with the TsUO and control and warning posts (PUO's) of NATO's NADGE joint air defense system, and with the E-3A AWACS aircraft. In addition, U.S. Army air defense batteries deployed in the V and VII army corps areas of responsibility are connected with the squadron CP by VHF radio relay communications and a cable teletype line.

In the course of the squadron's combat training there are rather frequent exercises in defense against mass destruction weapons (the personnel are fully supplied with protective masks and protective clothing). During the exercises there is practice chemical decontamination of personnel and equipment under conditions of an acute shortage of electrical power. The fact that $2,100 worth of fuel is used daily even with power supplied from a commercial network indicates the power consumption of equipment in the squadron's inventory.

The TACTICAL AIR CONTROL FLIGHTS are highly mobile ground elements of the wing. Each flight has up to two AN/TPS-43E radars which can be torn down and prepared for movement in a total of six hours. They do not include EVM's, and so the flights do not carry out an automatic data exchange with other wing elements and play the part of nonautomated PUO's in the air defense system.

Movement of the radars and other equipment can be done both in vehicles and in CH-53 helicopters. The western press notes that these same helicopters also are used to deliver the wing's means of MTO [logistical support].

American military specialists believe that the presence of transport helicopters in the wing improves the system's survivability and the flexibility of its tactical employment under conditions of a rapidly changing situation, especially with the redeployment of wing assets in case ground lines of communication are destroyed or overloaded. According to their estimates, however, the number of helicopters must be increased to 18 for effective resolution of this problem.

The division of wing elements into two subsystems is to a certain extent arbitrary. In fact all of them represent a unified system controlled centrally from a fixed CP protected against mass destruction weapons, which is colocated with the 4th ATAF TsUBDA at Sembach Air Force Base (Fig. 6, on left [figure not reproduced]) and is outfitted with automated data processing equipment, data displays and a large amount of communications equipment. The automated data processing equipment collects and sorts information about the status of friendly forces and means, selects intelligence necessary for planning air combat actions, and performs certain operational calculations with the unsealing of annexes to operation orders.

A typical feature of data displays at the wing CP is the fact that they do not reproduce the radar display of the air situation, but send it to the large screen of a collective-use display in the form of digital data in a tabular format.

Communications equipment of the wing CP provides for an exchange of information with the U.S. worldwide military command and control system and the NATO strategic control system through the H-6060 EVM installed at the 4th ATAF CP. Scrambled facsimile is used to transmit data from the joint intelligence center located at Ramstein Air Force Base. The wing CP has some 100 operating and reserve telephone lines, and it has radio relay communications with its subunits and with other tactical air control entities.

A far-flung network has been deployed to transmit the enormous flows of information, instructions and orders circulating among wing elements. The network includes a large number of HF and VHF radios of various types, radio-relay and tropospheric equipment, and a cable communications network with automatic switchboards. The AN/TRC-97A tropospheric station (Fig. 6, on right [figure not reproduced]) is the basic piece of equipment. It provides duplex telephone communications to a distance up to 200 km, which can be increased considerably using several such stations operating in a radio-relay mode. In addition to troposcatter communications, the station also can operate by the method of using spatial propagation of radio waves. Any one of the 24 telephone channels it provides can be multiplexed with 16 channels of teletype communications. An antenna system consisting of three antennas--one horn elevated to a height up to 15 m on a telescopic mast, and two highly directional parabolic antennas--is used in the station to improve the reliability of transmitting reports. A considerable number of the wing's communication channels is provided with scrambling equipment.

As with all other wing elements, its CP has high mobility and so, as the foreign press notes, it can be redeployed in 48 hours. MTO reserves on wheels permit it to operate for 24 hours without replenishment. At the end of this time the supply of fuel and other items is planned to the relocated subunit from a dispersed network of depots with the help of CH-53 helicopters.

In 1982 the wing CP began work of improving its protection and expanding its tactical capabilities under the Greek Tell program. In particular, the West German-manufactured Eifel-1 automated information retrieval system was deployed, the CP's communications equipment was coupled with the U.S. Defense Department strategic communications system, and new buried facilities were built. At the present time the CP accommodates equipment which protects electronics against the effect of the electromagnetic pulse from a nuclear burst (equipment and spaces have been shielded, filters have been installed at places where cables are connected with the equipment), air filtration plants have been installed for purifying the air, and the communications equipment is being coupled with the American AUTODIN worldwide digital data transmission system. It was planned to complete the above measures in late 1983.

The urgency with which this work was performed and its direction once again indicates the accelerated preparation of armed forces of the United States and the NATO bloc as a whole for war against the USSR and other countries of the socialist community.

6904
CSO: 1801/297

RC-135 RECONNAISSANCE AIRCRAFT

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 3, Mar 84 (signed to press 14 Mar 84) pp 57-59

[Article by Col Yu. Belyayev, candidate of technical sciences]

[Text] The RC-135 reconnaissance aircraft were developed within the framework of a program carried out by the U.S. Air Force command in the latter half of the 1960's for building up the attack power of aviation which, according to concepts of the American administration of that time, was to play a deciding role in establishing world domination of the United States of America. The aircraft were developed on the basis of the KC-135A tankers and C-135B military transports by fitting them with special equipment and gear (the basic performance characteristics of these aircraft are given below).

	KC-135A	C-135B
Weight, kg:		
Empty	48,200	46,400
Normal take-off	136,800	125,000
Maximum take-off	143,300	.
Maximum payload	37,700	40,400
Number x type and make of engines	4 x Turbojet J57-P-43W or J57-P-59W	4 x Turbofan TF33-P-5
Flight speed, km/hr:		
Maximum	970	970
Cruising	890	850
Flight range, km	5,500 (Radius of action with fuel reserve for refueling of 10,900 kg)	7,500 (With payload of 24,500 kg)
Ferry range, km	12,500	14,500

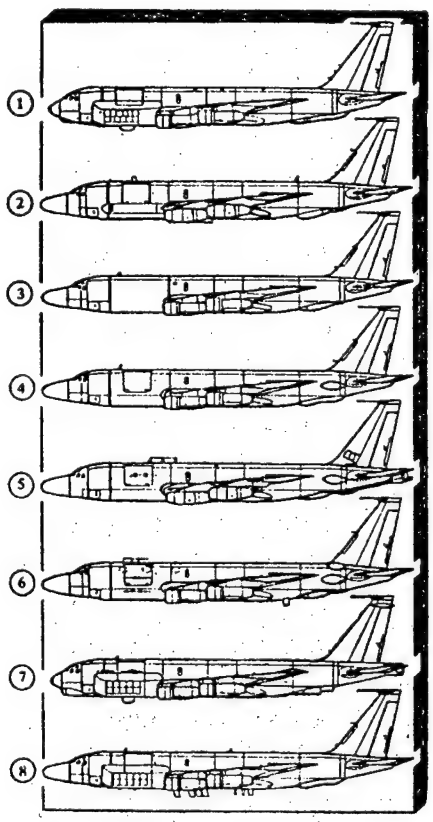


Fig. 1. Silhouettes (side view) of RC-135 reconnaissance aircraft of various modifications:

1. RC-135C
2. RC-135D
3. RC-135E
4. RC-135M
5. RC-135R
6. RC-135S
7. RC-135U
8. RC-135V

The RC-135 essentially is a flying reconnaissance laboratory with a crew of some 30 persons. According to foreign press reports a total of at least ten modifications of the RC-135 were produced, capable of accomplishing a wide range of reconnaissance missions including the compilation of radar terrain maps and recovering operating parameters of radiotechnical equipment on USSR territory.

Below is a brief description of basic modifications of the RC-135 strategic reconnaissance aircraft, and their silhouettes (side view) are shown in Fig. 1.

RC-135A. During 1965-1966 the American Air Force received four such aircraft for performing missions of mapping photography and geodetic studies. The aircraft is a KC-135A version, in which three aerial cameras (AFA's) were installed in place of part of the forward fuel tank (beneath the floor of the cargo compartment) and hatches 76 cm in diameter were installed in the skin and covered with a sliding panel. In July 1972 the equipment for mapping photography was dismantled from all RC-135A's and the aircraft themselves were used as auxiliary passenger aircraft right up until the end of 1980, when they were modified as KC-135D transport-tanker aircraft.

RC-135B. During 1964-1965 the Air Force received ten RC-135B's (each one fitted with four TF33-P-9 TRDD's [turbofan engines]), developed on the basis of the KC-135B tanker. In 1967 all RC-135B's were modified as RC-135C's, with large side-looking radar antennas installed along the sides of the nose, AFA's located in the refueling equipment operator's compartment, and two additional short-wave radio antennas similar to those on the upper edge of the vertical stabilizer mounted at the ends of the wings. In addition, antennas covered by fairings were accommodated under the nose.

RC-135D. During 1962-1963 four KC-135A aircraft were refitted as RC-135D's (Fig. 2 [figure not reproduced]). The refueling probes were removed, pitot tubes (PVD's) were installed on the wingtips, a radar with an elongated antenna fairing was installed in the nose, and long tubular side-looking radar antenna fairings, which subsequently were dismantled, were installed along the sides of the nose (from the wing root forward). One of the RC-135D aircraft crashed in January 1969 and the others were refitted as KC-135A transport-tankers (1975-1979).

The RC-135E was developed on the basis of the C-135B military transport. A radar was accommodated in the nose, pods with reconnaissance equipment were beneath the root sections of the wings, PVD's on the wingtips, and a wide fiberglass antenna strip was on the skin of the forward section of the fuselage.

RC-135M. During 1967-1968 six C-135B aircraft (with the TF33-P-5 TRDD's) were refitted as RC-135M's by installing in them a radar (in the nose), two tear-shaped antenna fairings on the tail section ahead of the stabilizer, and two antenna fairings in place of the refueling probe. PVD's were installed at the wingtips. As the western press reports, three RC-135M aircraft presently continue to perform reconnaissance missions, while the others were modernized as RC-135W's.

The RC-135S also was developed on the basis of the C-135B (two aircraft were built). Radar antenna fairings were installed in them, as in the RC-135M. In addition, the RC-135S has two plane antennas along the sides of the fuselage between the base of the vertical stabilizer root section and the other antennas, one whip antenna beneath the lower portion of the cargo hatch, and three of the same kind on the right side of the fuselage ahead of the wing. Initially there was a small round porthole on both aircraft between the upper and middle whip antennas on the right side of the fuselage, but three large ones were made in its place on one of the RC-135S's in 1972. Subsequently the second aircraft was refitted in the very same manner, but a sliding rectangular door was made on it, covering the forward porthole, and the upper whip antenna was dismantled. In that same year the upper surface of the right wing and inner surfaces of the third and fourth engine pylons and the gondolas were painted black to prevent the appearance of hotspots.

RC-135T. One KC-135R aircraft was refitted as this aircraft in 1971 by installing a radar in the nose (as in the RC-135D) and by installing several additional antennas: on the upper part of the fuselage along the centerline and on its right front section between the vertical stabilizer and mast. Judging from foreign press reports, the RC-135T is being used in the U.S. Air Force as an auxiliary in the command and control system and for training.

RC-135U (see color insert [color insert not reproduced]). In 1971 three RC-135C aircraft were refitted as this version, with the airborne electronics considerably updated. A nose fairing standard for the KC-135A was installed on the aircraft and behind it, in the lower portion of the fuselage, another large antenna fairing. In addition, a flat oval antenna fairing (in the lower part of the fuselage between the nose wheel and the leading edge of the wing), two large side-looking radar antennas (along the sides of the forward fuselage) with whip antennas above them, a modified tail fairing and a fairing in place of the refueling probe were installed in the RC-135U.

RC-135V. During 1973-1977 seven RC-135C and one RC-135U aircraft were modified as RC-135V's. An elongated nose fairing was installed in place of the standard nose fairing of the KC-135A aircraft, the side-looking radar was retained, and the following antennas were installed: a whip above the wing, two wire antennas and several large whip antennas beneath the fuselage.

RC-135W. Several RC-135M aircraft are being refitted as this aircraft. The elongated nose fairing remains; a side-looking radar, a whip antenna above the right wing and a single-wire antenna between the vertical stabilizer and mast on the left side of the fuselage behind the leading edge of the wing are being installed.

The foreign press notes that all modifications of the RC-135 have an aerial refueling system. The fueling probe is located behind the crew cockpit along the centerline and covered by a flap. It is also reported that there are other reconnaissance versions of aircraft developed on the basis of the KC-135 and C-135. For example, four KC-135A's were refitted as KC-135R's (an elongated antenna nose fairing, several slot antennas on the upper part of the fuselage along the centerline and a large tear-shaped antenna ahead of the stabilizer were installed). Two small openings for AFA's were made in the door of the main cargo hatch. The fueling probe was left on the aircraft. In 1965 ten C-135B's were refitted as WC-135B weather reconnaissance aircraft.

As the foreign press notes, the RC-135 reconnaissance aircraft of various modifications presently are being actively used by the Pentagon to conduct strategic aerial reconnaissance. The American militaristic circles are giving special attention to reconnaissance of facilities located in areas of the USSR's far-eastern borders, using air bases on U.S. territory for espionage flights, particularly Eielson in Alaska and a military airfield on Shemya Island (Aleutians), as well as the Japanese base of Kadena on Okinawa and the South Korean base at Osan.

6904
CSO: 1801/297

DESIGNATIONS OF MILITARY AVIATION EQUIPMENT ABROAD

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 3, Mar 84 (signed to press 14 Mar 84) pp 59-62

[Article by Col I. Karenin, under the rubric "At the Readers' Request"; passages rendered in all capital letters printed in boldface in source]

> [Text] Many readers of our journal ask us to tell about the system used for designating military aviation equipment abroad. We are fullfilling their request.

Judging from foreign press reports, of the main capitalist countries, only the United States, Great Britain, and Canada have established systems for designating aviation equipment. France, Italy and the FRG use the designations given by the firms producing a particular model. The designations of aircraft, helicopters and weapons acquired from abroad are not changed in the armed forces of many states. For example, the F-104 tactical fighter in the inventory of air forces of the FRG, Italy, Turkey and certain other countries has the very same designation as in the U.S. Air Force.

The systems for designating military aviation equipment adopted in the United States, Great Britain and Canada are examined below based on western press materials.

IN THE UNITED STATES there exist two systems of alphanumeric designations for aviation and missile equipment which are uniform for all branches of the Armed Forces: one is for aircraft and helicopters and the other for missiles and unmanned flying craft. Each model is designated according to the following scheme: class (basic purpose)--type number (place in the chronological sequence of development of a particular model for the given purpose)--variant or modification. In addition, a majority of them also receive names corresponding to the names of birds, animals, natural phenomena and so on (Eagle, Hornet, Tigershark, Phantom, Galaxy, Tomcat). The designations sometimes are accompanied by numerals such as Phantom-2. This is done to distinguish a model presently in existence from one which had the same designation but was in the inventory earlier (in this instance, to distinguish it from the Phantom fighter of World War II times).

AIRCRAFT AND HELICOPTER DESIGNATION SYSTEM. The class or basic purpose of the flying craft is denoted by a single capital letter of the English alphabet (the meanings of the letters are given below).

A--Attack aircraft
B--Bomber
C--Military transport
E--Aircraft (helicopter) fitted with special electronics (long-range radar warning and control aircraft, airborne command post)
F--Fighter
H--Helicopter
K--Tanker
O--Observation and target designation, spotter
P--Land-based patrol
R--Reconnaissance
S--Antisubmarine
T--Trainer
U--Utility (multipurpose)
V--Vertical or short take-off and landing aircraft
X--Experimental

For example, the class of fighters (fighter-interceptors, fighter-bombers, multirole tactical fighters) is given the letter designation F, military transport aircraft the letter C, antisubmarine aircraft the letter S, and so on.

The U.S. Armed Forces have a widespread practice of developing aircraft or helicopters with a new purpose on the basis of existing ones. The flying craft often acquires the capability of performing additional missions by means of various modernizations, modifications and the installation of equipment atypical of it. In this case the aircraft or helicopter is denoted by two letters of the English alphabet, the first of which indicates the new purpose. For example, the KC-135 tanker aircraft and RC-135 reconnaissance aircraft were built on the basis of the C-135 military transports, the RF-4 reconnaissance aircraft were built on the basis of the F-4 tactical fighters, and so on. Below is an interpretation of the meanings of the first letters in such designations.

A--Attack, adapted for operations against ground targets
C--Military transport, assault transport
D--Platform for unmanned flying craft
E--Fitted with special electronics (electronic intelligence, electronic warfare, and so on)
H--Search and rescue
K--Tanker
L--Arctic (adapted for operations under Arctic conditions)
M--Minesweeper (fitted with equipment for sweeping and destroying sea mines
O--Observation and target designation
P--Land-based patrol

Q--Unmanned
R--Reconnaissance
S--Antisubmarine (in the Air Force: strategic)
T--Operational trainer, trainer (also can denote tactical)
U--General or auxiliary purpose
V--Headquarters
W--Weather (weather reconnaissance)

The additional letters sometimes indicate the stage of development of a given flying craft. For example, the letter G signifies that flights are prohibited in the craft, J--aircraft or helicopter undergoing temporary special tests, N--permanent special tests, X--experimental, Y--prototype, Z--planned for development. For example the YC-14 is a prototype of a military transport aircraft.

A type number consists of one, two or three digits (F-4, A-10, F-111). It is given to the aircraft and helicopters during development. A modification or variant usually is characterized by one capital letter of the English alphabet following the type number. For example, depending on its variants and modifications the F-16 tactical fighter may have the letters A, B. C, D and E in its designation, i.e., F-16A, F-16B and so on.

The following are some examples of designations and names of U.S. military aircraft and helicopters:

--F-15A Eagle (F--fighter, 15--type number, A--modification, Eagle--name);

--KC-135Q Stratotanker (KC--tanker aircraft based on the C-135 military transport, 135--type number, Q--tanker variant intended for aerial refueling of the SR-71 strategic reconnaissance aircraft, Stratotanker--name);

--CH-47D Chinook (H--helicopter, C--assault-transport, 47--type number, D--modification, Chinook--name);

--AV-8B (V--VTOL aircraft, A--attack, intended for operations against ground and seaborne targets, 8--type number, B--modification);

--P-3C Orion (P--land-based patrol aircraft, 3--type number, C--modification, Orion--name).

The SYSTEM OF MISSILE AND DRONE (BPLA) DESIGNATIONS differs from that used for aircraft and helicopters. The designation of each model consists of three or four capital letters of the English alphabet, a type number and a modification. Names are chosen for missiles and drones according to the very same principle as for aircraft and helicopters. Each letter carries certain information indicating, reading from right to left, the model type, purpose, method of launch or take-off, and development status.

Model type: M--guided missile or drone, N--research missile, R--free-flight rocket.

Purpose: D--decoy, E--model with special electronics, G--for destruction of ground targets, I--for actions against airborne targets, Q--drone, T--for training in firing or launching, V or U--for destruction of underwater targets, W--weather.

Method of launch or take-off: A--airborne (from an aircraft or helicopter), B--from various platforms, C--from container, F--individual launch, G--runway take-off, H--from silo-based position, L--silo launch, M--from ground mobile launcher (PU), P--from unprotected launcher, R--from shipboard launcher, S or U--from beneath the water.

Development status: J--undergoing temporary special tests, N--permanent, X--experimental model, Y--prototype, Z--planned for development.

The following are selected examples of U.S. missile and drone designations:

--AIM-9L Sidewinder (M--guided missile, I--for destroying airborne targets, A--launched in the air, 9--type number, L--modification, Sidewinder--name);

--AIR-2A Genie (R--free-flight rocket, I--for destroying airborne targets, A--launched in the air, 2--type number, A--modification, Genie--name);

--MGM-31A Pershing (M--guided missile, G--for destroying ground targets, M--launched from ground mobile launcher, 31--type number, A--modification, Pershing--name);

--UGM-93A Trident (M--guided missile, G--for destroying ground targets, U--launched from beneath the water, 93--type number, A--modification, Trident--name);

--RIM-66A (M--guided missile, I--for destroying airborne targets, R--launched from shipboard launcher, 66--type number, A--modification);

--MQM-61A Cardinal (QM--guided drone, M--launched from ground mobile launcher, 61--type number, A--modification, Cardinal--name);

--YCGM-121A Pave Tiger (M--drone, G--for destroying ground targets, C--launched from container, Y--prototype, 121--type number, A--modification, Pave Tiger--name).

GREAT BRITAIN. The designations of aircraft and helicopters in the British Armed Forces consist of a name, letter designation of the class of flying craft or its purpose, and modification.

The names given vary widely and correspond to the names of birds, animals, insects, natural phenomena and so on. For example, Harrier in translation to the Russian language means a lun', Lynx a rys', Lightning means molniya, Wasp means osa, Scout means razvedchik and Hawk means yastreb.

The aircraft or helicopter class or purpose is denoted by capital letters of the English alphabet. Given below are the meanings of letters and their combinations as cited in the western press.

AEW--Aircraft (helicopter) for long-range radar detection (DRLO) and control
AH--Army aviation helicopter
AL--Liaison aircraft or helicopter
AS--Antisubmarine
B--Bomber

B(1)--Bomber intended for performing missions of interdicting a combat area
C--Military transport
CC--Aircraft (helicopter) for organizing radio communications, relaying commands and so on, developed on the basis of a military transport
D--Drone
E--Aircraft (helicopter) equipped with special electronics
F--Fighter, fighter-interceptor
FGA or FG--Tactical fighter, fighter-bomber
FGR--Multirole tactical fighter capable of delivering attacks against ground targets and performing reconnaissance
FR--Reconnaissance aircraft developed on the basis of a fighter
FRS--Reconnaissance aircraft capable of delvering strikes against ground targets
GR--Delivery of strikes against ground targets and performance of reconnaissance
HAR or HR--Search and rescue helicopter
HAS--Antisubmarine helicopter
HC--Military transport or assault transport helicopter
HT--Training helicopter
HU--General purpose helicopter
K--Tanker
MR--Maritime reconnaissance
PR--Photoreconnaissance
S--Strike
SR--Strategic reconnaissance aircraft
T--Operational trainer, trainer
TT--Target tow
W--Weather

Aircraft and helicopter modifications are denoted by digits, and sometimes by digits and capital letters of the English alphabet:

--Lightning-F.6 (Lightning--name, F--fighter-interceptor, 6--modification);

--Nimrod-AEW.3 (Nimrod--name, AEW--long-range radar detection and control aircraft, 3--modification);

--Victor-K.2 (Victor--name, K--tanker aircraft, 2--modification);

--Hawk-T.1 (Hawk--name, T--operational trainer, 1--modification);

--Wessex-HAR.2 (Wessex--name, HAR--search and rescue helicopter, 2--modification).

CANADA. Canada's system for designating military aircraft and helicopters somewhat resembles the American system and follows the scheme: class or basic purpose (capital letters of the English alphabet)--type number--modification--name. For example: C--military transport, F--fighter, H--helicopter,

P--land-based patrol, SR--search and rescue, T--operational trainer, trainer. The letter C is placed in front, indicating subordination to the Canadian Armed Forces (Canadian version), then the type number of the flying craft is written after a dash (as a rule, greater than 100; the exception is the designation of the CF-5 and CF-18 tactical fighters), and the modification.

The following are selected designations of aircraft and helicopters of the Canadian Armed Forces:

--CF-101B Voodoo (C--Canadian version, F--fighter-interceptor, 101--type number, B--modification, Voodoo--name);

--CP-140 Aurora (C--Canadian version, P--land-based patrol aircraft, 140--type number, Aurora--name);

--CC-130 Hercules (C--Canadian version, C--military transport, 130--type number, Hercules--name);

--CH-147C Chinook (C--Canadian version, H--helicopter, in this case assault transport, 147--type number, C--modification, Chinook--name).

Judging from foreign press reports, other capitalist countries do not yet have an established, unified system for designating aviation equipment, although such attempts are being made.

SWEDEN. A certain system revealing the aircraft class, type number and modification exists on an equal basis with the manufacturer's designations of aircraft (such as the SAAB-105). The following letters of the English alphabet or their combinations are used for denoting the class: A--attack aircraft, AJ--fighter-bomber, JA--fighter-interceptor, S--reconnaissance aircraft, SH--reconnaissance aircraft intended for reconnoitering seaborne targets, SF--for reconnoitering ground targets, SK--trainer.

FRANCE. The manufacturer's designations of aircraft at times include letter designations indicating their purpose: E--tactical fighter, fighter-bomber (Mirage-F.1E), C--fighter-interceptor (Mirage-3C), B or D--operational trainer (Mirage-F.1B), R--reconnaissance (Mirage-5R).

6904
CSO: 1801/297

FRENCH MAGIC-2 AIR-TO-AIR MISSILE

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 3, Mar 84 (signed to press 14 Mar 84) p 62

[Article by Engr-Col V. Dmitriyev]

[Text] The new Magic-2 air-to-air short-range dogfight guided missile (UR) (see figure [figure not reproduced]) has been received by the French Air Force and Naval Aviation. It is to be used for arming Mirage, Jaguar, Super Etendard and Alpha Jet aircraft. In its size-weight characteristics and external appearance it resembles the Magic R.550 missile which has been in the inventory of the French Air Force and Naval Aviation since 1974, as well as in the inventory of many other countries to which French aviation equipment is exported. The Magic R.550 UR has a launching weight of 90 kg, range of fire of 7 km, a length of 2,723 mm and a body diameter of 157 mm.

Judging from western press reports the basic differences of the new missile consist of the use of an improved infrared [IR] homing head (GSN), active IR fuze and more powerful solid-propellant rocket motor. It is believed that use of a multisegment detector with a sensitivity increased by 80-100 times in the IR GSN provided for the all-aspect nature of tactical employment of the Magic-2 guided missile (the Magic R.550 can hit targets only from their rear hemisphere). Digital methods of processing the IR GSN signals and for producing guidance commands in combination with improved aerodynamic characteristics and increased power of the propulsion unit permitted an increase in the new missile's range of fire to 15 km.

As the foreign press emphasizes, the Magic-2 guided missile concedes nothing in performance characteristics to the American AIM-9L Sidewinder missile of a similar purpose presently in the air forces of many NATO countries and other capitalist states. One notes in this connection the acute competitive struggle which unfolded around the question of adopting one of two missiles (particularly for the Viggen fighters in Sweden and for the F-16 in Belgium). Manufacture of the first lot of Magic-2 guided missiles and their delivery to air units is planned for 1984 in France.

6904
CSO: 1801/297

U.S. NAVY'S FUTURE PACKET RADIO COMMUNICATIONS SYSTEM

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 3, Mar 84 (signed to press 14 Mar 84) pp 72-74

[Article by Capt-Lt A. Stefanovich]

[Text] In stepping up the arms race for aggressive purposes, the U.S. Navy command is attempting to improve the effectiveness and reliability of fleet command and control on the basis of an extensive use of modern means of communication and electronic computer technology. It believes that more advanced control facilities can considerably facilitate the work of commanders at all levels in decisionmaking and can reduce the time for making decisions known to those responsible for executing them.

In the opinion of foreign military specialists, the growing needs for accelerated processing of a large volume of data by staffs, establishments, task forces, groups and individual ships of the U.S. Navy as well as the experience gained in using shore-based computer centers and shipboard and airborne naval tactical data systems [NTDS] require an improvement in the forms and methods of using electronic computer technology.

One such new form was the collective use of territorially spaced computer technology (computer centers) joined by a unified network of intercomputer communications (Fig. 1). Subscribers of many establishments and organizations connected to the network have the capability of obtaining necessary information practically simultaneously from a common data bank formed by individual EVM's [electronic computers].

Work in the United States to set up such a network, designated ARPANET (Advanced Research Project Agency Network), was begun in 1969. The foreign press emphasizes that it has an important advantage in that it allows interworking with numerous computer centers, maneuvering computer capacities, and using specialized centers for solving problems of certain classes.

The so-called method of switching data packets was used in the ARPANET for communications between EVM's with varied software. Its essence is that messages are broken into separate blocks of standard length (packets), which are numbered, supplied with an address and transmitted over the network, which consists of high-speed data transmission channels and switching processors.

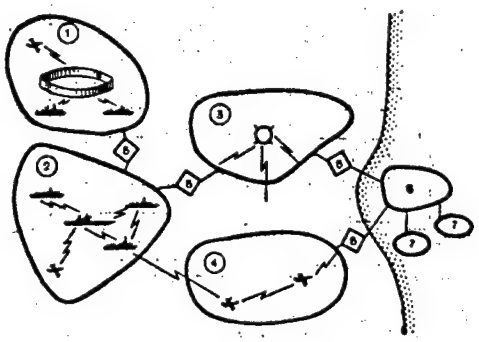


Fig. 1. Future system of the U.S. Navy's packet radio communications:

1. JTIDS joint tactical information distribution system network
2. Intrasquadron packet radio communications network
3. Satellite packet communications network
4. Relay aircraft packet radio communications network
5. Device for connecting networks
6. DDN data network
7. Shore command center

Data packets arrive at a subscriber's processor by various routes and the processor forms a message from the packets according to their numbers and sends it to the main EVM indicated in the address.

Foreign specialists note that this method permits transmitting messages at a high rate considerably faster than in message and channel switching networks, changing the rate, converting the format and code during switching, selecting the optimum route for packet transmission depending on overloads in the network, and rapidly processing short messages being transmitted simultaneously in the presence of lengthy messages.

The foreign press reports that basic principles for the design and operation of the ARPANET will be made the basis of the Defense Department's automated data network known as DDN (Distributed Data Network) presently under development, one of the functions of which will be to provide a high-speed data exchange among U.S. Navy shore command centers.

In 1973 American specialists began developing a packet communications radio and its first tests were held in 1975. Additional testing of the network, including 20 radios and two control stations (an advanced version of the latter presently is under development) were conducted in 1979 in the 18th Airborne Corps at Fort Bragg.

The prospects for applying packet data switching methods in satellite communications lines presently are being studied. One of the primary purposes of an experiment conducted during 1978-1979 was to work out methods for joint use of one and the same satellite communications channel by many ground stations in a message packet switching mode.

Foreign specialists include high survivability, jamming protection and the possibility of a data exchange among shipboard, airborne and shore-based EVM's in real time among the basic advantages of the future packet radio communications system. Such a system will permit accomplishing tasks of great importance for each ship (data collection, processing and transmission) using a unified data network. In addition, data constantly coming from shore command centers will provide task force and group commanders with information on the location of enemy targets situated at distances considerably exceeding ranges of their detection possible by facilities of the ships and AWACS aircraft.

The packet radio communications system also can be used for multisubscriber digital voice communications (conference communications) which provides for remote operational conferences. American specialists believe that the appearance of equipment necessary for such communications at each military base within the next 5-10 years will permit a considerable improvement in the effectiveness of control.

The Navy command plans to outfit fleet ships and aircraft with packet radio communications gear for a mutual exchange of information among the EVM's of task forces and for giving them access to the shore-based computer network. Foreign specialists believe that this gear can be used for data transmission over HF, VHF and satellite communications channels as well as with the help of airborne relays.

According to foreign press data, packet switching principles and methods of broadening the spectrum of signals by a linear, pseudorandom pulse train modulation are being combined in developing packet radio communications equipment for the U.S. Navy. Messages are to be distributed in such a network by the method of transmission with intermediate storage. The packet communications station consists of a radio unit for receiving and transmitting packets as well as a microprocessor which controls the station and processes the packet headers. It is coupled with a shipboard EVM and can play the role only of a relay.

A message with appropriate address comes from the subscriber's EVM to the microprocessor and is broken into packets. When the packet is transmitted its preamble, header and content are read from the microprocessor memory. A test combination 32 bits long is added in the radio unit and serves to detect possible message errors; the data are encoded and modulated by a linear pseudorandom train of 128 chains per bit (transmitted at a rate of 100 kilobits per second) or 32 chains per bit (400 kilobits per second). The resulting pseudorandom train goes to the modulator. Such a train allows expanding the signal spectrum to 20 MHz and considerably improving the security and jamming protection of the transmission. After amplification the broadband signal is transmitted to an adjacent radio in the 1,710-1,850 MHz band.

When received the message packets go to the amplifier, frequency converter, intermediate frequency amplifier and the automatic gain control system.

After phase synchronization has been established and at the end of the preamble the transmitted data are detected and go to the microprocessor, which processes their headers and produces the command for relay, cancellation or transmission of the packet to the subscriber's terminal.

Inasmuch as packet communications radios are equipped with an omnidirectional antenna and operate in a broadcast mode, the transmitted packets can be received by all packet communications radios within the zone of reception, but relay will be performed only by the one indicated in the packet header. The packet thus will be transmitted to the addressee by successive relay from one radio to another. The packet is recorded and stored in the ZU [memory] at each relay point until a receipt confirmation is received from the next relay

or until expiration of a certain time. In this case the packet will be retransmitted.

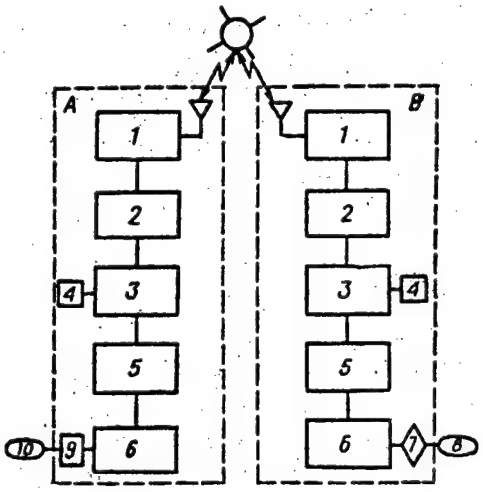


Fig. 2. Functional diagram of MAT system for giving mobile subscribers access to the ARPANET (A--shipboard equipment set, B--shore-based equipment set):

1. Antenna system
2. AN/WSC-3 radio
3. BLACK processor
4. Data encoding/decoding and error detection and correction unit
5. Scrambler
6. RED processor
7. Coupling device
8. ARPANET
9. Data input-output device
10. Packet radio communications station

Special control stations are being developed to assure effective operation of the packet radio communications network. Their primary functions will be the collection, storage and issue of statistical data on the operation of all network radios; a determination of optimum packet transmission routes based on the network's dynamic behavior; coupling with other networks, and the check and distribution of packet communication radio storage devices.

Equipment of the MAT (Mobile Access Terminal) system, intended for providing shipborne EVM's access to the ARPANET via satellite communications channels, is to become a fundamentally new component of the future packet radio communications system. This equipment permits the transmission of scrambled data in a conversational or one-way mode at a rate of 19.2 or 9.6 kilobits per second over channels of the FLTSATCOM satellite communications system. With two AN/WSC-3 satellite communications stations aboard ship the information can be transmitted in a duplex mode. A functional diagram of the MAT system is given in Fig. 2. The RED processor is one of the basic system elements and accomplishes the following tasks: controls data transmission among EVM's and between the EVM and terminal devices, as well as access to the communications channel according to its established use mode; forms queries for transmission and receipts for message reception; and generates other control signals needed for operation of the packet radio communications equipment.

Through a reduction in preamble length the BLACK processor reduces the redundancy of message packets introduced by the scrambler to the necessary dimensions. It is used to generate the preamble and to perform other auxiliary functions.

In the next few years the U.S. Navy command plans to begin experiments in organizing packet radio communications networks with the inclusion of fleet ships and aircraft. Their purpose will be to evaluate capabilities of the packet switching networks for assuring secure, jam-protected broadband communications between shore and shipboard command centers in real time.

It is planned to conduct the experiments in three phases. The first phase will test the organization of an intrasquadron packet radio communications network for a data exchange among shipboard and airborne NTDS's. During the second phase it is planned to test the capabilities for conducting packet radio communications in real time between shore-based and shipboard command centers via a relay satellite. Relay aircraft will be included in the network in addition during the third phase. The foreign press reports that adoption of the future packet radio communications system by the U.S. Navy is planned for the early 1990's.

6904
CSO: 1801/297

SELECTED WESTERN MILITARY BRIEFS

U.S. Bases in Greece

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 3, Mar 84 (signed to press 14 Mar 84) p 75

[Article by Col G. Petrukhin: "Announcements, Events, Facts: U.S. Bases Remain in Greece"]

[Text] After exerting increased pressure on Greece and forcing it to sign a new agreement, the Reagan administration gained the retention of American military bases in this country for another five years. During this time the Pentagon intends to maintain some 4,000 persons permanently at four main bases and almost ten auxiliary military facilities. The personnel are to support the provocative actions of the U.S. Armed Forces, and the Sixth Fleet above all, in the Mediterranean and in the Balkans and conduct intelligence operations against countries of the Balkan Peninsula, Near East, North Africa and Eastern Mediterranean as well as the Soviet Union.

The air force base at Elliniko (located near the Athens International Airport) is intended for servicing military transport aviation flying in the interests of American Army and Navy forces which are performing their gendarme functions in the Near East and Mediterranean.

The naval communications center at Nea Makri (approximately 30 km northeast of Athens) provides the American command with communications with the Sixth Fleet and conducts electronic espionage over the activity of radiotechnical equipment of countries of the Balkan Peninsula. It works together with a similar American facility located in Italy.

The base at Iraklion (island of Crete) officially maintains long-distance communications of the U.S. Air Force operating in the Near East and North Africa but, as the western press emphasizes, here is where the radio intercept of all coded signals is performed and from here they are transmitted to the headquarters of the National Security Agency at Fort Meade, Maryland, for processing. This base arranges coordination with American communications and electronic intelligence centers in the cities of Diyarbakir and Sinop (both in Turkey), which are engaged in collecting information about launches of missiles and

ISZ [artificial earth satellites] from USSR territory and about ship and aircraft movements in the Black Sea area.

The naval basing point at Suda (island of Crete) is capable of receiving the largest ships of the Sixth Fleet and supporting flights of land-based patrol aircraft of the U.S. Navy.

The agreement provides for American military assistance to Greece. In particular, it is set in an amount of $500 million for fiscal year 1984 in the form of credits for the purchase of military equipment.

French AMX-40 Tank

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 3, Mar 84 (signed to press 14 Mar 84) pp 75-76

[Item by Engr-Col N. Grishin, candidate of technical sciences]

[Text] According to foreign press reports, a prototype of the tank designated the AMX-40 (see color insert [color insert not reproduced]) was represented at a French arms exhibit organized in 1983 in Satory (near Paris).

In contrast to the AMX-30 and AMX-30B2 main battle tanks now in the inventory, which have a 105-mm rifled gun with a muzzle velocity of 1,525 m/sec for an armor-piercing projectile and an effective range of fire of 2,000 m, the new tank is armed with a 120-mm smoothbore gun of French manufacture. The unit of fire includes 37 fixed rounds consisting of a semicombustible shell case (with metal sabot) and projectiles of two types: fin-stabilized armor-piercing discarding sabot, and combination (shaped charge-HE effect). The muzzle velocity of the first projectile is 1,650 m/sec and its effective range of fire against tanks reaches 2,400 m. It is reported that the gun also can fire ammunition from the West German Leopard-2 tank's 120-mm gun.

The gun is mounted in a 360-degree traversing welded turret. A mechanism for facilitating loading (a rammer) is located in its rear portion. A 20-mm gun for combating light armored vehicles and airborne targets is paired with the main gun. A 7.62-mm machinegun is mounted on the commander's cupola and there are smoke grenade launchers located along the front sides of the turret. The fire control system includes a gun stabilizer, electronic ballistic computer, laser rangefinder and night vision devices, among which there is also a commander's television camera used under conditions of poor illumination. The AMX-40 tank has a combat weight of 43 tons. Its hull and turret are welded, with the front sections having multilayer armor.

The V-12 diesel engine with turbosupercharging develops 1,100 hp. The tank transmission has a torque converter and automatic transmission gear box. The running gear uses six pairs of road wheels (and not five as in the AMX-30). Maximum highway speed is 65 km/hr, with a range of 550 km.

In the estimate of foreign specialists, the AMX-40 was developed with consideration of demands placed on tanks of the 1990's. It is envisaged that it

will be produced for export, primarily for countries of the Near East. Series production may be begun in 1986. It is expected that the AMX-40 tank chassis will be used by French specialists to develop experimental models of future lighter (turretless) tanks with an external main gun mounting.

NATO Stinger Missile Production

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 3, Mar 84 (signed to press 14 Mar 84) p 76

[Item by Engr-Col V. Viktorov: "Production of Stinger Portable SAM System in NATO Countries"]

[Text] The Stinger portable SAM system (ZRK) is intended for combating visually observed low-flying tactical aircraft, helicopters and reconnaissance aircraft both on head-on and pursuit courses. It is capable of hitting airborne targets flying at low altitude at ranges up to 5 km. This SAM system is used for providing air defense at the battalion-separate support groups level (the latter operate on or near the forward edge).

Judging from foreign press reports, production of the portable Stinger SAM system in the United States at plants of the developing firm of General Dynamics began in April 1978. The first systems arrived in the U.S. Ground Forces stationed in Europe in February 1981 (5,000 of them were produced up to mid-1983). It is noted that the plants' maximum production capacities allow the manufacture of 200 SAM systems per month. It is planned to deliver a total of 17,000 systems for the U.S. Army and Marine Corps (the cost of one system is around $100,000).

In 1983 six NATO member nations (the FRG, Italy, Belgium, the Netherlands, Greece and Turkey) formed a European group for producing this SAM system. They signed a six-year agreement envisaging joint production of 10,000 systems under an American license. Their production at European plants will begin in 1984. In addition to these countries the Stinger is being supplied to Japan.

Tactical Fighter Pilot Training

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 3, Mar 84 (signed to press 14 Mar 84) p 76

[Item by Lt Col V. Antonov: "Joint Tactical Fighter Pilot Training Center"]

[Text] As reported in the foreign press, according to the protocol of an agreement signed in December 1980 by the ministers of defense of 12 countries which are members of the aggressive NATO bloc, a joint training center for jet (tactical fighter) pilots was formed under a uniform methodology and program. It was set up at the American Sheppard Air Force Base in Texas. Its official opening ceremony was held in the fall of 1981. At the present time this center has 157 trainer aircraft, a sufficient number of experienced instructor pilots, classrooms and all other logistical items necessary for organizing cadet training (this base previously trained jet pilots for FRG military aviation and the U.S. Air Force).

In 1982 there were 280 cadets training at this center: 131 from the U.S. Air Force, 65 from the FRG, six from Great Britain, four from Belgium, 46 from the Netherlands, ten from Denmark and 18 from Norway. The other countries which signed the aforementioned agreement (Italy, Canada, Greece, Turkey and Portugal) plan to send their students later.

According to data published in the western press, the first group of 34 pilots (from the United States, the FRG and Norway) graduated on 23 October 1982. They went through 55 weeks of training, during which the average flying time per trainee was 260 hours, including 123 hours in the T-37 aircraft and 137 hours in the T-38.

Subsequently the number of cadets training simultaneously at this center is to be increased to 300. In addition, plans are to train up to 125 instructor pilots here annually.

In the opinion of NATO military experts, the training of tactical fighter pilots under a uniform methodology and program makes it possible to perform various tactics and interpret one and the same concepts identically. This in turn should improve the interworking both of individual crews as well as of tactical air subunits and units of varying national subordination.

French Submarine Simulator

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 3, Mar 84 (signed to press 14 Mar 84) p 77

[Item by Capt 2d Rank V. Smirnov and N. Moshinskiy]

[Text] France has developed the CI-1 self-propelled sonar simulator in training and combat versions. As the foreign press reports, it has the appearance of a torpedo (a caliber of 53 cm, length of 5 m, see diagram [diagram not reproduced]) and is supplied with sonar equipment which allows simulating the noises or generating the signals identical to those of active sonar homing systems of torpedoes reflected from a submarine. The simulator also can emit acoustic vibrations similar to those generated by torpedo homing heads.

The CI-1 is fitted with an electric motor and has a large power storage capacity, which gives it the opportunity to move at minimum speed for eight hours. The simulator is controlled either with a program placed in it in advance or with a remote control system.

The foreign press emphasizes that the training version of the CI-1 simulates with high validity the characteristics inherent to submarines, which allows conducting effective personnel drills in antisubmarine warfare under near-combat conditions and quickly testing new technical and tactical solutions. It also can be used in testing and evaluating new torpedoes or other underwater weapons. Submarines are equipped with two combat simulators.

New Turkish Military Appointments

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 3, Mar 84 (signed to press 14 Mar 84) pp 77-78

[Article: "We Provide Information: New Assignments in the Turkish Armed Forces"; passages rendered in all capital letters printed in boldface in source]

[Text] The following changes have occurred in leadership of the Turkish Armed Forces in connection with preparations for transferring power to a civilian administration.

The SUPREME COMMANDER OF ARMED FORCES is Kenak Hairullah Evren. Born in 1918 in the city of Alasehir, he has a higher military education and served in the Army from 1938 through 1983 in various units, large units and headquarters, holding command and staff positions. A participant of the Korean War in 1950, over the last 10 years he was Armed Forces chief of staff, first deputy chief of the general staff, commander of the Aegean Field Army, commander of the ground forces, and chief of the general staff. In September 1980 Evren headed a state coup and as a result power in the country shifted to the National Security Council (SNB). During a nationwide referendum in November 1982 he was elected president of the country for a term of seven years. In June 1983 he retired from the post of chief of the general staff, retaining the positions of SNB chairman and supreme commander of the Armed Forces.

Evren is close to right-wing bourgeois-landowner parties in his political views. He is an adherent of the unification of all Turkey's national forces for stabilizing the situation in the country and taking the Turkish economy out of a crisis. He speaks out for developing good-neighbor relations and cooperation with all states, but in his practical activities he conducts a course toward further strengthening of comprehensive ties with the United States and other NATO countries.

The following were appointed in June 1983:

As CHIEF OF THE GENERAL STAFF OF THE TURKISH ARMED FORCES, Army General Nurettin Ersin, former commander of the ground forces. He was born in 1918 in the city of Gelibolu. In the Army from 1935, he has a higher military education. Served in various large units and headquarters, holding the following command and staff positions: commander of 6th Army Corps, member of supreme military council, commander of gendarme troops, general secretary of SNB, commander of 1st Field Army and of ground forces. He is one of the most influential military leaders in the Turkish Armed Forces. Military circles describe him as a general possessing great experience in command and control and in developing and conducting various exercises and maneuvers. In 1974 the Turkish troops conducted an operation on Cyprus under Ersin's leadership. He was promoted to the military rank of army general in August 1974.

It has been reported that Ersin adheres to extreme right-wing, anticommunist views. He speaks out for unilateral orientation on the United States in building the Armed Forces.

As GROUND FORCES COMMANDER, Army General Necdet Urug. Born in 1921 in the city of Istanbul. In the Army since 1941; has higher military education. Studied in various training institutions and in advanced courses in Great Britain, France and the United States. Served in units, large units and headquarters, holding command and staff positions, and instructed in a military academy. During 1970-1972 was Turkish representative to the headquarters of the supreme commander of NATO OVS [Joint Armed Forces] in Europe, then was an army corps commander, member of the supreme military council, commander of the 1st Field Army, deputy commander of ground forces and general secretary of SNB. Promoted to military rank of army general in August 1977. The foreign press notes that he is well trained in the operational-tactical sense and has sufficient command and control experience. He fully supports the supreme military leadership headed by Evren in questions of domestic and foreign policy.

As DEPUTY GROUND FORCES COMMANDER, Army General Haidar Saltyk. He was born in 1923 in the city of Istanbul; in the Army since 1941; has a higher military education. He held the following positions over the last ten years: chief of main operations directorate of the general staff, deputy ground forces chief of staff for operations, army corps commander, first deputy chief of the general staff, commander of the 1st Field Army. He was promoted to the military rank of army general in August 1978.

He has authority among the military leadership and is close to President Evren. While Evren's deputy he developed the plan for the military overthrow.

As 1ST FIELD ARMY COMMANDER, Army General Necdet Oztorun. He was born in 1924 in the city of Konya; in the Army since 1943; has a higher military education. During 1971-1973 he was a representative of the Turkish Armed Forces at the headquarters of the NATO OVS in Europe, then deputy commander of NATO Joint Ground Forces in the southeastern part of the Southern European TVD [theater of military operations], an army corps commander, and first deputy chief of the general staff. He was promoted to the military rank of army general in August 1980.

He supports the policy of the supreme military leadership, directed toward strengthening and expanding ties with the United States and NATO.

As NAVY CHIEF OF STAFF, Corps Admiral Irfan Tynaz. He was born in 1929 in the city of Istanbul, has served in the Navy since 1951 and has a higher military education. He completed the Naval Academy (Turkey) and the NATO College (Italy). In recent years was chief of personnel directorate of the Navy staff, commander of the Bosporus Strait naval region, a flotilla commander, and chief of a main directorate of the general staff. He was promoted to the military rank of corps admiral in August 1982. The foreign press emphasizes that he adheres to an increased role of the Navy in the Armed Forces. He is oriented toward the United States in questions of naval organizational development.

The COMMANDER OF THE NORTHERN NAVAL ZONE has been Corps Admiral Orhan Karabulut since February 1983. He was born in 1927 in the city of Izmit, has

served in the Navy since 1948 and has a higher military education. He held the following positions in recent years: commander of the Dardanelles Strait naval region, fleet chief of staff, commander of a mine flotilla, chief of main operations directorate of naval staff, Navy chief of staff. He was promoted to the military rank of corps admiral in August 1981.

He is considered well trained in the operational sense and has authority in the fleet.

6904
CSO: 1801/297

FOREIGN MILITARY CHRONICLE

Moscow ZARUBEZHNOYE VOYENNOYE OBOZRENIYE in Russian No 3, Mar 84 (signed to press 14 Mar 84) pp 79-80

[Text] United States

The refitting of B-52 strategic heavy bombers as platforms for air-based cruise missiles (KR's) continues. Units and subunits of the U.S. Air Force Strategic Air Command at four air bases already have been re-equipped with these aircraft. The plans are to modernize a total of 195 B-52's, of which 99 are B-52G's and 96 are B-52H's, as cruise missile platforms.

The SSN707 "Portsmouth" "Los Angeles" Class nuclear-powered submarine was commissioned in October 1983.

An air division with the very same number was organized on the basis of the 552d Air Wing. Included in it were the 963d, 964th and 965th combat squadrons as well as the 4552d Training Squadron. By the end of 1983 they had 30 (of the planned 34) E-3B Sentry AWACS aircraft. It is planned to activate one more combat squadron (the 966th). Each combat squadron will have eight E-3B aircraft and the training squadron will have two.

Brigadier General L. Suddath is the commander of Berlin Brigade.

Lt Gen J. Curry was appointed deputy commander of V Army Corps (stationed in the FRG) in 1983.

Plans are for the tank battalion of 1986 to have a headquarters and four tank companies with 14 vehicles each (each having a company headquarters and three platoons of four tanks each), and combat and logistical support subunits. The plans are for it to have a total of 58 Abrams M1 tanks (presently there are 54 M60A1 tanks).

A new mobile communication countermeasures system, the AN/MLQ-34 TACJAM, mounted on the chassis of an M548 APC, is undergoing field testing in the 124th Intelligence and EW Battalion of the 24th Mechanized Division (Fort Stewart). It is assumed that it may replace the AN/GLQ-3B system in the inventory.

A 155-mm cluster projectile has been developed for active jamming of various enemy communications equipment. Its body contains six jammers which are dispensed over the necessary area and dropped with ribbon parachutes. An antenna on each transmitter opens up after landing and it begins to operate automatically.

The Marine Corps command plans to arm the AH-1T and AH-1J Sea Cobra helicopters as well as the OV-10D Bronco aircraft with the Hellfire antitank missiles with a laser guidance system. The helicopters will carry eight missiles each on an external suspension and the aircraft will carry ten. Laser illumination of targets for the helicopters must be done from the ground, while it is planned to equip the aircraft with an on-board laser rangefinder-target designator.

Series production of the AH-64A Apache fire support helicopters began at the Mesa, Arizona, plant of the firm Hughes Helicopters. Plans are to achieve maximum productivity (12 machines per month) in 1986. It is planned to purchase a total of 455 of this type of helicopter for the U.S. Army. The cost of one model will be approximately $15.1 million.

The "Los Angeles" Class nuclear-powered submarine SSN718 "Honolulu" was launched in October 1983. Her commissioning is planned for the end of this year.

The SSBN730 "Henry M. Jackson" nuclear-powered strategic submarine, the fifth SSBN of the "Ohio" Class, was launched in October 1983 (previously she was called the "Rhode Island"), and her commissioning is planned for 1985.

The first series SH-60B Seahawk helicopter was delivered to the HSL-41 squadron (the first squadron of LAMPS Mk 3 antisubmarine helicopters), stationed at North Island Naval Air Station in the city of San Diego, in September 1983. It is planned to arm some 100 ships with such helicopters. The Navy plans to have a total of 204 Seahawk helicopters aboard ships of the Atlantic and Pacific fleets as well as ashore.

There were 1,353 persons accepted for the first course of the Navy School in Annapolis in 1983. Based on average annual statistical data, American specialists assume that in 1987 the number of graduates of this class will be only around 1,030. The rest will be released for various reasons.

Deployment of the Patriot ZRK [SAM system] is being postponed until September 1984 due to troubles discovered during troop tests and insufficient reliability of some components of the control post and the multifunction radar.

Great Britain

Up to ten minesweepers took part in an exercise of the fleet minesweeping forces which was held on 17-28 November 1983 in Bristol Bay. Problems of the forming and tactical employment of ship minesweeping groups and of laying and sweeping mines were practiced during the exercise.

An order worth 100 million pounds sterling was issued in late 1983 to the firm of Vickers Shipbuilding and Engineering for building the lead Project 2400 diesel submarine. Her submerged displacement is 2,400 tons, with a length of 70 m, a width of 7.6 m, a draft of 5.5 m, submerged speed of 20 knots and maximum submerged depth of 200 m. She has a crew of 46.

An eight million dollar contract was signed with the firm of Ferranti for making Type 117 laser rangefinder-target designators for the American F-18 Hornet aircraft. The plans are to make a prototype for flight testing and a set of equipment for training pilots.

FRG

An exercise of territorial troops of the FRG and the Netherlands under the codename "Aqua Marine" was held within the framework of the Autumn Forge-83 fall maneuvers of NATO's Joint Armed Forces. It was used to practice support to a troop assault crossing of water obstacles (the rivers Rhine, Maas and Mosel) using self-propelled ferries, floating bridge sets and other means.

The following will be appointed in April 1984:

--Rear Adm Dieter Wellershof as Inspector of the Navy;

--Maj Gen Hans-Wilhelm von Bornstedt as commander of I Military District;

--Maj Gen Wolfgang Malecha as commander of the 6th Motorized Infantry Division.

Each year some 6,000 servicemen of the Bundeswehr ground forces undergo three weeks of training at the Shilo Range (Manitoba Province, Canada), during which they usually participate as part of subunits (up to a motorized infantry or tank company) in tactical field fire exercises with standard weapons.

The FRG Armed Forces command plans to increase the number of mobilization exercises in ground and territorial troops as well as in the Air Force and Navy in 1984. A total of some 240,000 reservists will be called up during the year for two-week courses and various exercises.

The Pinguin-B3 remotely controlled submersible vehicle for the search, classification and destruction of seabed and moored mines was made operational with minesweepers/minehunters. It weighs 1.35 tons with demolition charges, it is 3.5 m long, has a body diameter of 0.7 m, a speed of 6 knots, submergence depth of 100 m and operating range of 600 m.

France

The first squadron equipped with the new Mirage-2000 tactical fighters (the first series aircraft was handed over to the country's Air Force in April 1983) was activated at Dijon Air Base in December 1983. By mid-1984 it was planned to set up a special training subunit there to retrain French Air Force flight personnel in the Mirage-2000.

Tests were conducted of a new version of the Crotale ZUR [surface-to-air missile: SAM] for destroying antiship missiles. During the tests it was discovered that it reliably intercepts PKR's [antiship missiles] flying at a height of at least 4 m over the sea surface at a speed of 2,150 km/hr. The launch weight of the SAM (fitted with an IR homing head) is 80 kg, the flight speed on the mid-course leg is 2,700 km/hr and the effective range for a target kill is 0.5-8 km.

Austria

A combat engineer tank which will perform earthmoving and recovery work in forward areas under enemy fire was developed for the engineer troops. It is equipped with a bulldozer blade, a not fully rotatable excavator arm, auger, and winch. The tank's combat weight is 22 tons, it has a length of 7.4 m, a width of 2.5 m, and a height of 3.15 m. The diesel engine develops 320 hp, the tank has a maximum road speed of 65 km/hr, and a range up to 600 km. It is armed with a 12.7-mm machinegun.

Belgium

All F-104 Starfighter tactical fighters have been removed from the inventory of Air Force combat units and subunits and replaced with the new F-16 aircraft. The last two F-104's flew from Kleine-Brogel Air Base on 23 September 1983 to a storage base. They joined the very same kind of aircraft assembled here (51 of them) for sale to other countries. Earlier 18 F-104's removed from the inventory of the Belgian Air Force were transferred to Turkey.

Italy

Flight tests are being conducted with the new A.129 Mangusta fire support helicopter developed by the firm of Agusta. Its first flight occurred in September 1983. The ground forces command is planning to acquire some 60 such helicopters, with the beginning of their deliveries expected in 1986.

Flight tests continue with the MB.339K Veltro-2 single-seat light attack aircraft, which is a variant of the MB.339A operational trainer. Tests are being conducted with a varying mix of on-board weapons, including with four DEFA 30-mm guns (two built-in and two on external suspensions). According to a statement by representatives of the Aermacchi firm, with such cannon weapons the MB.339K aircraft will be able to be used effectively for combating lightly armored ground targets, ships with small displacements and helicopters.

The 30-mm twin-gun turret mounting of the Breda firm has begun to be delivered to ships of small displacement and auxiliary vessels. It has a rate of fire of 1,600 rounds per minute. The turret is made of fiberglass.

Series production has begun on the Manta seabed mines intended for mining shallow water areas and destroying surface ships of small and medium displacement as well as submarines. The mine weighs 220 kg, has a laying depth of 1.5-100 m and an effective destruction range of 20-30 m.

Sweden

It is planned to purchase some 80,000 AK-5 5.56-mm automatic rifles (the Belgian FNC-79) for the ground forces, to be produced by the Swedish FFV association of state plants under license. Deliveries are planned to begin in 1985.

Israel

The third air base in the Negev Desert was made operational in late 1983. The first two (Mizpe Ramon and Bikat Uvda) were built with the help of American specialists and the third (Tel el Milkh) was built with Israel's own resources.

Pakistan

The question is being examined about acquiring six P-3B Orion land-based patrol aircraft (in the antisubmarine version) previously in the Australian Air Force. The latter plans to purchase the more sophisticated aircraft of that designation, the P-3C Orion, in their place.

Saudi Arabia

Plans are to replace the troops' obsolete American M114 155-mm towed howitzers with the new M198 (of the same caliber). A total of 42 are to be purchased.

Japan

Three sets of the "70" self-propelled ponton set was delivered to engineer subunits stationed on the island of Hokkaido. The set consists of ten amphibious vehicles, each of which can be used as an independent piece of crossing equipment with a carrying capacity up to 12 tons. The vehicle is made on a special two-axle chassis. A diesel engine permits it to develop a road speed up to 50 km/hr, and 12 km/hr afloat (with the help of two propellers).

The Air Force command plans to introduce aerial refueling into the flying practice of its combat aircraft. In this connection the question is being examined about modernizing the country's existing Boeing 707 aircraft for their use as tankers or about purchasing the KC-10 Extender transport-tankers in the United States.

NATO

By early October 1983 some 260 of the latest Tornado tactical fighters with variable geometry wing were received by the military aviation of three bloc member nations (the FRG, Great Britain and Italy). Production of this type of aircraft is continuing, with a total of 809 ordered (including 165 Tornado-F.2 fighter-interceptors for the British Air Force).

6904
CSO: 1801/297

END